

Current Affairs Update (Oct 1-7)

National

PM Poshan Shakti Nirman

The existing **Mid-Day Meal scheme**, which provides hot meals to students, has been renamed as **the National Scheme for PM Poshan Shakti Nirman**.

Key propositions in the PM POSHAN Scheme:

Supplementary nutrition: The new scheme has a provision for supplementary nutrition for children in aspirational districts and those with high prevalence of anaemia.

States to decide diet: It essentially does away with the restriction on the part of the Centre to provide funds only for wheat, rice, pulses and vegetables. Currently, if a state decides to add any component like milk or eggs to the menu, the Centre does not bear the additional cost. Now that restriction has been lifted.

Nutri-gardens: They will be developed in schools to give children “firsthand experience with nature and gardening”.

Women and FPOs: To promote vocals for local, women self-help groups and farmer producer organisations will be encouraged to provide a fillip to locally grown traditional food items.

Social Audit: The scheme also plans “inspection” by students of colleges and universities for ground-level execution.

Tithi-Bhojan: Communities would also be encouraged to provide the children food at festivals etc, while cooking festivals to encourage local cuisines are also envisaged.

DBTs to school: In other procedural changes meant to promote transparency and reduce leakages, States will be asked to do direct benefit cash transfers of cooking costs to individual school accounts, and honorarium amounts to the bank accounts of cooks and helpers.

Holistic nutrition: The rebranded scheme aims to focus on “holistic nutrition” goals. Use of locally grown traditional foods will be encouraged, along with school nutrition gardens.

The Election Symbols

As per the guidelines, to get a symbol allotted:

1. A party/candidate has to provide a list of three symbols from the EC's free symbols list at the time of filing nomination papers.
2. Among them, one symbol is allotted to the party/candidate on a first-come-first-serve basis.
3. When a recognised political party splits, the Election Commission takes the decision on assigning the symbol.

As per **the Election Symbols (Reservation and Allotment) (Amendment) Order, 2017**, party symbols are either:

1. **Reserved:** Eight national parties and 64 state parties across the country have "reserved" symbols.
2. **Free:** The Election Commission also has a pool of nearly 200 "free" symbols that are allotted to the thousands of unrecognised regional parties that pop up before elections.

Why in news? The Election Commission of India (ECI) has frozen the 'Bungalow' election symbol of the Lok Janshakti Party (LJP), so that **neither of the two factions of the party will be able to use it in the coming Assembly byelections** for the Kusheshwar Asthan and Tarapur seats in Bihar.

Swachh Bharat Mission-Urban 2.0 (SBM-U)

- To make all cities **100% 'garbage free'** from **current 70%**
- **Ensure grey and black water management** in all cities other than those covered under AMRUT
- **Make all urban local bodies as ODF+** and those with a **population of less than 1 lakh as ODF++**
- **Focus on source segregation of solid waste** by utilizing the principles of **3Rs (Reduce, Reuse, Recycle)**
- **Scientific processing** of all types of **municipal solid waste** and **remediation of legacy dumpsites** for effective solid waste management

Jal Jeevan Mission

- Prime Minister Narendra Modi launched a newly designed **Jal Jeevan Mission (JJM)** mobile application on October 2, 2021, Gandhi Jayanti. The app would **enable anyone to fund provision of tap water in rural parts of India.**
- JJM envisages supply of **55 litres of water per person per day to every rural household** through **Functional Household Tap Connections (FHTC) by 2024.** It is under the **Ministry of Jal Shakti.**

The mission ensures:

- Functionality of existing water supply systems and water connections.
- Water quality monitoring and testing as well as sustainable agriculture.

- Conjunctive use of conserved water.
- Drinking water source augmentation.
- Drinking water supply system, grey water treatment and its reuse.

CJI for special panels to probe 'atrocities'

Chief Justice of India has mooted to form a Panel headed by High Court Chief Justice to probe any complaint received from Common man of “**atrocities**” committed by the bureaucracy, especially police officers

Challenges in curbing the misuse of power by Bureaucrats:

- **India has not criminalized custodial violence:** India also does not have an anti-torture legislation
- **Non-implementation of SC Prakash Singh case (2006) order:** Also, Recommendations of the **2nd ARC and the Supreme Court** for constituting **independent complaint authority** to inquire into the cases of police misconduct have not been implemented by most of the States.
- **Police force lacks accountability and impunity:** Only the executive can sue a police officer and any inquiry against the officer need prior government approval.
- **Perception of quick justice:** **80%** of police personal believe the use of violence by them is justified while **50%** of citizens also believe so (“Status of Policing in India Report, 2019” by Common Cause)
- **Underfunded, under-trained and understaffed Police force:** Even the money under the **Modernization of Police Forces (MPF) Scheme** have not been fully utilized (Bureau of Police Reforms and Development (BPR&D) data)
 - This leads to **undue pressure on police** to solve the case without having the requisite resources to do it.
 - Nearly **12% of police personnel** never receive human rights training (Common Cause and CSDS-Lokniti, report)

Measures to curb misuse of power by Bureaucrats:

- **Law commission report implementation:**
 - **273rd report:** those accused of committing custodial torture – be it policemen, paramilitary and military personnel – should be criminally prosecuted instead of facing mere administrative action.
- **Legal Measures:**

- **Section 197 of CrPC should be amended: This will ensure that** prosecutors do not need the permission of the government before pursuing charges against police in cases such as arbitrary detention, extrajudicial killings, torture, and other criminal acts.
- **Administrative Measures:**
 - **DK Basu judgment (1987) guidelines of SC should be strictly implemented:** E.g. notifying the next of kin of the arrested person, medical examination of the accused was made mandatory, preparing memo at the time of arrest in front of a witness, etc.
- **Judicial measures: Magistrate's Role:** magistrates must prevent overreach of police powers **by inspecting arrest-related documents** and ensuring the wellbeing of suspects by directly questioning them.
- **Monitoring and implementation** of DK Basu by **independent and balanced civil society** individuals at each level, under court supervision, will help in minimizing it.
- **Adequate training to the police force: Training** on modern, non-coercive techniques for **suspect and witness interviewing** and questioning as well as on respecting human rights aspects.

International

UNECE Water Convention and Senegalo-Mauritanian Aquifer Basin

The four West African countries- Gambia, Guinea Bissau, Mauritania and Senegal- have signed a **joint declaration to advance transboundary cooperation in the Senegal-Mauritanian Aquifer Basin (SMAB)**. This would be the first such mechanism in West Africa and pave the way for strengthened collaboration on shared groundwater resources worldwide.

About the Water Convention:

- The Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) was adopted in Helsinki in 1992 and **entered into force in 1996**.
- The Convention is a unique **legally binding instrument** promoting the sustainable management of shared water resources, the implementation of the Sustainable Development Goals, the prevention of conflicts, and the promotion of peace and regional integration.

Members: It has been ratified by 43 parties, which includes 42 states and the European Union. It has been signed but not ratified by the United Kingdom.

Conference on Disarmament

The **Conference on Disarmament (CD)** is being held in Geneva.

At the conference, India expressed deep concern over the proliferation of weapons of mass destruction and their delivery systems that could endanger peace and security, saying the possibility of terrorists acquiring such weapons necessitates the global community to work together to address this grave danger.

India has said that it supports the full and effective implementation of **the Chemical Weapons Convention and emphasises the strengthening of the OPCW** to fulfill its important mandate.

The **Conference on Disarmament (CD)** is a multilateral disarmament forum established by the international community **to negotiate arms control and disarmament agreements based at the Palais des Nations in Geneva**. The Conference meets annually in three separate sessions in Geneva.

The Conference was first established in 1979 as the Committee on Disarmament as the single multilateral disarmament negotiating forum of the international community. It was renamed the Conference on Disarmament in 1984.

Formation: 1984.

Membership: 65 Countries.

The Conference was created with a permanent agenda, also known as the “Decalogue,” which includes the following topics:

1. Nuclear weapons in all aspects.
2. Other weapons of mass destruction.
3. Conventional weapons.
4. Reduction of military budgets.
5. Reduction of armed forces.
6. Disarmament and development.
7. Disarmament and international security.

What is the Pandora papers leak case?

Pandora Papers have come to spotlight after millions of documents related to hidden world of offshore wealth got leaked to the International Consortium of Investigative Journalism (ICIJ).

These are the 11.9 million leaked papers from 14 companies, in offshore tax havens, comprising of details of ownership of 29,000 offshore companies and trusts from countries like Vietnam, Belize and Singapore. These documents highlight the ownership of assets has been settled in private offshore

trusts and investments like cash, shareholding, and real estate properties are held by the offshore entities. In this case, around 380 people of Indian nationality have been named.

Science-Tech & Environment

Nobel Prize for Medicine 2021

- **Winners:** American scientists **David Julius** and **Ardem Patapoutian** won the prestigious “2021 Nobel Prize for Medicine”.
- **Contribution:** They won the prize for their discoveries of receptors for temperature and touch.
- **Significance:** Breakthroughs in physiology have often resulted in an improvement in the ability to fight diseases and disorders. According to award-giving body, these discoveries could make way for new pain-killers. These findings have allowed to understand how heat, cold and mechanical force initiate the nerve impulses which in turn allow humans to perceive and adapt to the world around.
- This development and knowledge are being used to develop treatments for a several disease conditions, including chronic pain. The identification of these receptors opens up the possibility of regulating their functioning. For example, there are receptors that make us feel pain. If these receptors can be suppressed, or made less effective, the person would feel less pain.

Nobel Prize for Physics 2021

- **Winners:** Japanese-born American Syukuro Manabe, German Klaus Hasselmann and Italian Giorgio Parisi won the 2021 Nobel Prize for Physics for work that helps understand complex physical systems such as earth’s changing climate.
- **Contribution:** Manabe (90) and Hasselmann (89) for modelling earth’s climate and reliably predicting global warming. Parisi for discovering in the early 1980s “hidden rules” behind seemingly random movements and swirls in gases or liquids, which can also be applied to aspects of neuroscience, machine learning and starling flight formations.

Nobel Prize in Chemistry 2021

- **Winners:** David MacMillan and Benjamin List “for the development of asymmetric organocatalysis”.
- **Significance:** Catalysts are fundamental tools for chemists, but researchers long believed that there were, in principle, just two types of catalysts available: metals and enzymes. Benjamin List and David MacMillan, in 2000, developed a third type of catalysis. It is called asymmetric organocatalysis and builds upon small organic molecules.
- The new generations of catalysts were both more friendly for the environment and cheaper to produce and have been the key to making new substances such as pharmaceuticals, plastics, perfumes and flavours.

Mosquirix

RTS,S/ASO1 (RTS.S), trade name **Mosquirix**, was recently endorsed by the **World Health Organisation (WHO)**. It is **the first and, to date only, vaccine shown to have the capability of significantly reducing malaria**, and life-threatening severe malaria, in tests on young African children.

The vaccine acts against **falciparum**, the most deadly malaria parasite globally, and the most prevalent in Africa. It is also **the first malaria vaccine to be introduced by three national ministries of health through their childhood immunization programmes** — Ghana, Kenya, and Malawi.

Countries that have achieved at least 3 consecutive years of zero indigenous cases of malaria are eligible to apply for the WHO certification of malaria elimination.

Over the last two decades, 11 countries have been certified by the WHO Director-General as malaria-free: United Arab Emirates (2007), Morocco (2010), Turkmenistan (2010), Armenia (2011), Sri Lanka (2016), Kyrgyzstan (2016), Paraguay (2018), Uzbekistan (2018), Algeria (2019), Argentina (2019), and El Salvador (2021).

Antibodies against Nipah virus detected in bats from Kerala

Nipah virus antibodies (IgG antibodies) were detected in bat samples collected by the National Institute of Virology (NIV), Pune, from two districts in Kerala where a Nipah infection was confirmed.

Significance of the discovery: Given the current evidence, it has been logically concluded that the Nipah outbreak in Kozhikode did originate from bats, even though the authorities are still in the dark as to the route of virus transmission from bats to humans.

About the Nipah virus: It is a **zoonotic virus**, meaning that it can spread between animals and people. The organism which causes Nipah Virus encephalitis is **an RNA or Ribonucleic acid virus of the family Paramyxoviridae, genus Henipavirus**, and is closely related to **Hendra virus**. **Fruit bats**, also called **flying foxes**, are the animal reservoir for NiV in nature.

Global Roadmap to Defeat Meningitis by 2030

The Global Roadmap to Defeat **Meningitis** by 2030 was recently released by the **World Health Organization (WHO)** and its partners. This is **the first-ever global strategy to defeat meningitis**.

It aims to eliminate epidemics of bacterial meningitis and to reduce deaths by 70 per cent and halve the number of cases.

Meningitis: Meningitis is an inflammation of the membranes that surround the brain and spinal cord. It is predominantly caused by bacterial and viral infection. Meningitis caused by bacterial infection causes around 250,000 deaths a year and can lead to fast-spreading epidemics.

Changes proposed in Forest Conservation Act

Ministry of Environment, Forest and Climate Change (MoEFCC) has proposed an amendment to the Forest (Conservation) Act, 1980, in a bid to liberalise the forest laws.

Highlights:

- The amendment puts forward stringent norms for the conservation of forest, by hiking the penal provisions for offenses.
- Amendment also provides for maintaining “pristine forests”. Non-forestry activity will not be allowed within the pristine forests, under any circumstances.
- Under the amendment; deemed forests, that have been listed by state governments up to 1996, will continue to be considered as forest land.
- Land acquired by the Railways and the road ministries before 1980, on which forests came up, will not be considered as forests.
- Amendment would also reduce the flow from foreign exchange for importing wood & wood derivatives of approximately Rs 45,000 crore by means of encouraging plantations and afforestation.

Why this amendment was put forward?

The definition of forest under the forest act was problematic in case of railways and roads. There is land that both the ministries own, but they cannot use it without getting permission from the MoEFCC. These permissions are granted in about 2-4 years, causing delays in several projects. With more land coming under the definition of “forest”, it’s becoming harder for State Governments or private industry to use land that falls under the definition of “forest” for non-forestry purposes. Through the years, this has given rise to multiple instances of litigation, as well questions on the legal definition of “forest”.

DART Mission

American Space Agency, NASA has announced to launch “**asteroid-killing Double Asteroid Redirection Test (DART) spacecraft**”

The DART mission is based on the idea of developing a defence system against asteroid collision. It has reached to its final stages of development. Under the mission, spacecraft will be sent towards Didymos asteroid system, approximately 109.4 crore kilometres away from Earth. Didymos system comprise of two asteroids namely, **Didymos and Dimorphos**. The spacecraft will ram into Dimorphos in order to determine if kinetic impactor technology can be a reliable method to deflect asteroids. Kinetic impactor technology requires flying the spacecraft directly into a small Solar System body.

The spacecraft will be launched, aboard SpaceX’s Falcon 9 rocket. It will be launched from Vandenberg Space Force Base, California. Under this mission, NASA will build advanced technologies which would protect the Earth from hazardous asteroid collision.

What is Heli-borne Survey Technology?

- Union Minister, Dr Jitendra Singh, launched state-of-the-art Heli-borne survey technology.
- Heli Survey Technology was launched for ground water management.
- In the first phase, the States of Rajasthan, Punjab, Gujarat and Haryana are being taken up for the heli-borne survey. Survey was started from Jodhpur in Rajasthan on October 5.
- This technology has been developed by CSIR-NGRI Hyderabad.
- The state-of-the-art technology, Heli Survey Technology, will be used to map the groundwater sources in arid regions.
- Survey will help in utilizing groundwater for drinking purposes.
- Heli-borne geophysical mapping technique will provide high-resolution 3D image for sub-surface up to a depth of 500 meters below the ground level.

Mitra Shakti

8th Edition of the “India Sri Lanka bilateral joint Exercise” called Mitra Shakti will be conducted from October 4 to October 15, 2021 at Combat Training School, Ampara in Sri Lanka.

JIMEX

The Indian Navy and The Japan maritime Self-Defence Force is scheduled to start the Fifth edition of India – Japan Maritime Bilateral Exercise called in the Arabian Sea from October 6, 2021.

AUSINDEX

India and Australia participated in the fourth iteration of the biennial maritime series called ‘AUSINDEX’. AUSINDEX Maritime exercises are conducted in India and Australia alternatively. The 4th edition is being conducted in the Northern Australia Exercise Area.

Exercise Milan

- India is set to host its **largest naval exercise-** Exercise Milan- early next year for which 46 countries have been invited.
- The exercise will see the participation of all Quad countries.
- Milan has so far been held at Port Blair but is now being shifted to **Visakhapatnam**, which offers more space and facilities.

Wildlife Week

- India observes Wildlife Week from October 2nd to October 8th every year with the aim of protecting India’s fauna. During the week, experts conduct workshops in order to make people understand the importance of wildlife conservation.
- Wildlife Week 2021 is being celebrated under the theme “**Forests and Livelihoods: Sustaining People and Planet**”.

Jim Corbett National Park

- It is located in Nainital district of Uttarakhand. The park encompasses the Patli Dun valley formed by the Ramganga river. The national park was established in 1936 as Hailey National Park to protect the endangered Bengal tiger.
- It is named after Jim Corbett who played a key role in its establishment. It is the oldest national park in India. It was the first area to come under the Project Tiger initiative in 1973.

Why in News? Union Minister of State for Environment, Forest and Climate Change Ashwini Kumar Choubey has proposed to change the name of Corbett National Park to Ramganga National Park.

New species of blind freshwater eel discovered in Mumbai

- New species of blind freshwater eel has been by four scientists from the Zoological Survey of India (ZSI).
- Eel species was discovered from a well in Mumbai, Maharashtra. As per scientists, eel is a blind freshwater hypogean. This is the first such discovered species from Maharashtra and Northern western Ghats.
- Species has been named as 'Rakthamichtys mumba' to pay tribute to the city it was found in. The word 'mumba' has been derived from the Marathi language to honour a deity worshipped in Mumbai called "Mumba Aai".

Global Coral Reef Monitoring Network report

Global Coral Reef Monitoring Network (GCRMN) has released a report on the status of **coral reefs** across the world. The report, the first of its kind in 13 years, underlined the catastrophic consequences of global warming but said that **some coral reefs can be saved by arresting greenhouse gases**.

Highlights of the report:

- In the last decade, the world lost about 14 per cent of its coral reefs.
- **Threats:** Ocean-acidification, warmer sea temperatures and local stressors such as overfishing, pollution, unsustainable tourism and poor coastal management.
- **Impact of global warming:** Coral reefs across the world are under relentless stress from warming caused by climate change. **Coral bleaching events** caused by rise in elevated sea surface temperatures (SST) were responsible for coral loss.
- **Loss of hard coral cover:** There has been a steady decrease in hard coral cover in the last four decades since 1978 when the world lost nine per cent of its corals. The decrease is disconcerting because live hard coral cover is an indicator of coral reef health.
- **Algal bloom:** Algal bloom on coral ridges are a sign of stress on the structures. Since 2010, the amount of algae on the world's coral reefs has increased by about 20 per cent.

Economics

What is the difference between Captive and Non-Captive Mines?

- **Captive Mines:** Captive mines are the mines that are owned by companies. The coal or mineral produced from these mines is for the exclusive use of the owner company of the mines. The company cannot sell coal or mineral outside. Some electricity generation companies used to have captive mines.
- **Non- Captive Mines:** Non-captive Mines are mines from which the produced coals of minerals could be used for its own consumption and as well as for selling it.

Mines and Minerals (Development and Regulation) Act, 1957 empowered central to reserve any mine for the particular end-use. These were the captive mines. Now, **the Mines and Minerals (Development and Regulation) Amendment Bill, 2021** removed the distinction. Now captive mines will also be able to sell their stock.

Why in News? The coal mines that produce coal solely for their own use, known as “captive mines”, will now be allowed to sell 50% of their annual output in the open market. The Ministry of Coal has amended Mineral Concession Rules, 1960 in this regard.

Moody’s upgrades outlook on India’s sovereign rating to Stable

Rating agency Moody’s Investors Service upgraded the sovereign rating outlook of India to stable from negative. As per Moody’s, downside risks on growth because of coronavirus infection waves are lowering because of rising vaccination rates and selective use of restrictions on economic activity. Furthermore, higher capital cushions and greater liquidity highlights that banks & non-bank financial institutions have a lesser risk to the sovereign now.

Current Affairs Update (Oct 8-15)

National

What is Digital Divide?

It means discrepancy between people who have access to and the resources to use new information and communication tools, such as the Internet, and people who do not have the resources and access to the technology. It also means discrepancy between those who have the skills, knowledge and abilities to use the technologies and those who do not.

Where does it exist?

The digital divide can exist between those living in rural areas and those living in urban areas, between genders, between the educated and uneducated, between economic classes, and on a global scale between more and less industrially developed nations.

Status in India:

1. Although India has 220 million smartphone users and is the second largest smartphone market in the world, the overall penetration is still just about 30 per cent of the population.
2. There is a huge **rural- urban and inter-state digital divide in India**.
3. according to statistics, more than 75 per cent of the broadband connections in the country are in the top 30 cities.
4. Similarly, many states like north-eastern states, Uttar Pradesh, Bihar, Jharkhand, Orissa, Chhattisgarh and Assam lag behind other states in the use and development of ICTs.
5. Globally 12 percent more men used the internet than women in 2017, while in India only 29% of total internet users are females.
6. Another important reason of digital divide in India is knowledge divide. Knowledge divide is directly related with digital divide.

Impact of Digital Divide:

1. **Low female representation:** Due to huge digital divide in gender, thousands of Indian girls in these far-flung areas are refused access to Information and Communications Technology (ICTs), which is a primary cause of low female representation in jobs.

2. **Denial to information/knowledge:** This lack of equal opportunities to access online services and information deprive people of higher/quality education and skill training that could help them contribute to the economy and become leaders on a global level.
3. **Non delivery of welfare schemes:** As many schemes have started using ICT in their delivery, at the same time due to digital divide it will create more problem.

Kalapani Dispute

The area is the largest territorial dispute between Nepal and India consisting of at least 37,000 hectares of land in the High Himalayas. Nepalese political parties have a general consensus over the fact that **Kalapani in Uttarakhand is part of Nepal's sovereign territory**, said former Nepalese Foreign Minister. However, India rejected this claim.

Nepal has published a revised official map incorporating the territory from the Limpiyadhura source of the Kali to Kalapani and Lipulekh pass in the northeast of the triangular region as its territory. Last year, the Cabinet led by Prime Minister K.P. Sharma Oli registered a constitution amendment motion to grant constitutional status to the map.

Geographical location: Kalapani is located in **the easternmost corner of Uttarakhand's Pithoragarh district**. Shares a border on the north with the Tibet Autonomous Region of China and Nepal in the east and south. It is wedged in between Limpiyadhura, Lipulekh and Kalapani.

Who controls the area?

The area is in India's control but Nepal claims the region because of historical and cartographic reasons.

What is the cause of the dispute?

The Kalapani region derives its name from **the river Kali**. Nepal's claims to the region is based on this river as it became the marker of the boundary of the kingdom of Nepal following **the Treaty of Sugauli** signed between the Gurkha rulers of Kathmandu and the East India Company after **the Gurkha War/Anglo-Nepal War (1814-16)**. The treaty was ratified in 1816.

According to the treaty, Nepal lost the regions of **Kumaon-Garhwal** in the west and Sikkim in the east. According to **Article 5**, the King of Nepal gave up his claims over the region west of the river Kali which originates in the High Himalayas and flows into the great plains of the Indian subcontinent.

According to the treaty, the British rulers recognised Nepal's right to the region that fell to the east of the river Kali.

What is Buddhist Circuit?

- The Buddhist Circuit project was **announced by the central government in 2016**. Since then, Rs 343 crore has been sanctioned for the project under various schemes.
- The Buddhist circuit is **a route that follows in the footsteps of the Buddha** from **Lumbini** in Nepal where he was born, through Bihar in India where he attained enlightenment, to **Sarnath and Kushinagar** in Uttar Pradesh in India, where he gave his first teachings and died.
- Under the Ministry of Tourism's flagship **Swadesh Darshan scheme**, multiple projects have been undertaken in Madhya Pradesh, Bihar, Uttar Pradesh, Gujarat and Andhra Pradesh.
- In Bihar and Uttar Pradesh, the plan is to further **develop the sites of Bodh Gaya, Nalanda, Rajgir, Viashali, Sarnath, Shravasti, Kushinagar, Kaushambi, Sankisa and Kapilavastu**.

Swadesh Darshan Scheme: It was launched by the Ministry of Tourism in **2014-15 to develop theme-based tourist circuits** in the country. It is a **100% centrally funded scheme** for project components undertaken for public funding. It also has **provision for leveraging voluntary funding under Corporate Social Responsibility (CSR)** initiatives of Central Public Sector Undertakings and the corporate sector.

Under this scheme, **13 thematic circuits have been identified** for development.

These are:

1. Buddhist Circuit,
2. North-East India Circuit,
3. Coastal Circuit,
4. Himalayan Circuit,
5. Krishna Circuit,
6. Desert Circuit,
7. Eco Circuit,
8. Wildlife Circuit,
9. Tribal Circuit,
10. Rural Circuit,
11. Spiritual Circuit,
12. Ramayana Circuit and

13. Heritage Circuit.

Athirappilly hydroelectric project

The Kerala government has called off the proposed 163-megawatt **Athirappilly hydroelectric power project on the Chalakudy river basin** in Thrissur district. The **Chalakudy River is a tributary of the Periyar River** and originates in the Anamalai region of Tamil Nadu.

Why was it abandoned?

The decision came amid mounting opposition from environmentalists and tribal organisations **against the construction in the biodiverse and state’s only riverine forest.**

7 REASONS WHY PROJECT SHOULD BE SHELVED

1 Western Ghats Ecology Expert Panel has recommended that green nod shouldn't be given to large storage dams in eco-sensitive zones (ESZ) 1 & 2. Athirappilly falls under ESZ 1

2 Project would destroy 138ha of forestland. As per project report, over 104.4ha of forests would be submerged, of which 28.4ha is natural forest, 36.8ha reserve forest plantations and 39.2ha riverbed

3 Project's projected power generation capacity is 163MW but there is not enough water for it. Power generated is unlikely to be more than 20 MW

4 Project is estimated to cost between ₹1,200cr and ₹1,500cr. This would significantly increase cost of power

5 Existence of unique low-elevation riparian vegetation with high endemism. A total of 155 species of endemic plants with 33 categorized as rare and endangered by International Union for Conservation of Nature (IUCN)

6 Of 486 bird species recorded in state, 234 can be found in Vazhachal-Athirappilly region. Also home to Malabar grey hornbill, grey hornbill, Malabar pied hornbill, great Indian hornbill

7 High fish diversity. The riparian ecosystem harbours 104 out of the 210 species recorded in Kerala, including 22 endangered and nine critically endangered ones



National Bureau of Fish Genetic Resources had recommended that the Chalakudy River be declared a fish sanctuary

PROJECT TIMELINE

1982: Twin projects of Poringalkuthu Right Bank and Athirappilly proposed
1985: Poringalkuthu project dropped
1989: MoEF rejects environment clearance (EC) for Athirappilly project
1996: Gets techno-economic clearance from Central Electricity Authority (CEC)
1998: MoE&F gives environment clearance (EC) based on a rapid EIA
1997: Stage-I forest clearance by MoE&F
1999: Stage-II forest clearance

2005: MoE&F gives second EC based on another EIA study
2007: Another EC accorded by MoE&F based on HC judgment
2008: CEC's techno-economic clearance expires
2012: EC validity expires
2015: MoE&F extends validity of EC, with effect from 2012
2015: Kadar tribe of Vazhachal invokes community forest rights, passes resolution against project
2017: EC validity for project expires
2018: River protection forum temporarily calls off protests

International

CAATSA

- Countering America's Adversaries through Sanctions Act (CAATSA)'s core objective is to counter **Iran, Russia and North Korea through punitive measures**.
- Enacted in 2017. Includes sanctions against countries that engage in significant transactions with Russia's defence and intelligence sectors.
- In the first such signal to New Delhi, visiting US Deputy Secretary of State Wendy Sherman has indicated that Washington might reconsider slapping **sanctions on the Indian government** when New Delhi takes delivery of five **Russian-built S-400 Triumf anti-aircraft missile systems** in a US\$5.5 billion deal later this year.
- The **S-400 Triumf** is a mobile, surface-to-air missile system (SAM) designed by Russia. It is the most dangerous operationally deployed modern long-range SAM (MLR SAM) in the world, considered much ahead of the US-developed **Terminal High Altitude Area Defense system (THAAD)**.

Tax Inspectors Without Borders (TIWB) programme

- Seychelles' **Tax Inspectors Without Borders (TIWB) programme** launched in partnership with India.
- This programme is the sixth TIWB programme which India has supported by providing Tax Expert. It is a **joint initiative of the United Nations Development Programme (UNDP) and the Organisation for Economic Cooperation and Development (OECD)**.
- **The objective** of the TIWB Initiative is to enable sharing of tax audit knowledge and skills with tax administrations in developing countries through a targeted, real time "learning by doing" approach.

UN Human Rights Council recognises 'Right to a clean environment'

- The United Nations Human Rights Council (UNHRC) unanimously voted to recognise a clean, healthy & sustainable environment as a universal right. This right was recognised by UNHRC on October 8, 2021 in Geneva, Switzerland.
- Once the right is recognised by all, it would be the first of its kind in 70 years, ever since the Universal Declaration of Human Rights was adopted in 1948 by the UN General Assembly.
- Right to a clean environment was first rooted in "1972 Stockholm Declaration".
- Environmental defenders worldwide are subject to constant physical attacks, legal actions, detentions, arrests, and smear campaigns. In 2020 alone, around 200 environmental defenders have been murdered. The UNEP has deepened its commitment to protect and promote environmental human rights defenders in times to come.

Indian Ocean border dispute between Kenya and Somalia

Kenya has said it rejected the jurisdiction of **the United Nations International Court of Justice (ICJ)** ahead of a ruling next week on its long-running maritime border dispute with **Somalia**. It said, as a sovereign nation, Kenya shall no longer be subjected to an international court or tribunal without its express consent.

Dispute: The main point of disagreement between the two neighbours is the direction in which their maritime boundary in **the Indian Ocean** should extend. According to Somalia, the sea border should be an extension of the same direction in which their land border runs as it approaches the Indian Ocean, i.e. towards the southeast.

Kenya, on the other hand, argues that the territorial southeast border should take a 45 degree turn as it reaches the sea, and then run in a latitudinal direction, i.e. parallel to the equator. Such an arrangement would be advantageous for Kenya, whose coastline of 536 km is more than 6 times smaller than Somalia's (3,333 km).

Importance: The triangular area thus created by the dispute is around 1.6 lakh sq km large, and boasts of **rich marine reserves**. It is also believed to have oil and gas deposits.

IEA invites India to become full-time member

International Energy Agency (IEA) has invited India to become its full-time member. This membership invitation was given in the light that, India is **world's third-largest energy consumer**. If this proposal is accepted, it will require India to increase its strategic oil reserved to 90 days requirement.

India became an **associate member** of the IEA in March 2017. IEA is a Paris-based body that advises industrialised nations regarding the energy policies.

IEA comprises of **30 member countries** and eight associate nations. Four countries are seeking for a full membership namely, Colombia, Chile, Israel and Lithuania.

IEA was **founded in 1974** by industrialised countries under the framework of Organisation for Economic Co-operation and Development (OECD)

G20

The G20 is an **annual meeting of leaders from the countries with the largest and fastest-growing economies**. Its members **account for 85% of the world's GDP, and two-thirds of its population**.

The **G20 Summit** is formally known as the **"Summit on Financial Markets and the World Economy"**.

Full membership of the G20: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom, the United States and the European Union.

Why in news? The G20 Anti-corruption Working Group, which for the first time includes sport as a specificity within its mandate, has reached consensus on the draft high level principles on Preventing and Combating Corruption.

Henley Passport Index 2021

- Henley Passport Index lists the **most travel-friendly passports** of the world. Henley Passport Index ranks the passports of countries on the basis of number of destinations their holders can visit without getting visa in advance.
- Rankings are decided by analysing the data provided by 'International Air Transport Association (IATA)'.
- The Henley Passport Index was prepared by London-based **Henley and Partners**, which is a global citizenship and residence advisory firm. It covers 199 passports and 227 destinations.
- **Japan** secured the top position for the third year in a row. **South Korea and Germany** were at the second position.
- **Afghanistan, Syria, Iraq**, Yemen and Pakistan are among the least powerful.
- **India** was ranked at 84th position in 2020. But in 2021, its position has dropped to **90th position**. India's passport holders are allowed to travel to 58 countries visa-free.

Science-Tech & Environment

What is the 'High Ambition Coalition' (HAC)?

- High Ambition Coalition for Nature and People, was **initiated at the "One Planet Summit" in Paris** in January 2021. It is **co-chaired by Costa Rica and France** and by the **United Kingdom as Ocean co-chair**.
- High Ambition Coalition (HAC) is a **group of more than 70 countries** encouraging the adoption of the global **goal to protect 30×30**.
- **HAC champions** a global deal for nature and people with the **central goal of protecting at least 30 percent of world's land and ocean by 2030**.
- **The 30×30 target** is a global target which aims to halt the accelerating loss of species, and protect vital ecosystems that are the source of our economic security.
- HAC members **currently include a mix of countries in the global north and south**; European, Latin American, Africa and Asia countries are among the members.

Why 30×30?

- In order to address both the biodiversity crisis and the climate crisis, there is growing scientific research that half of the planet must be kept in a natural state.

- Despite this, experts agree that a scientifically credible and necessary interim goal is **to achieve a minimum of 30% protection by 2030.**

Why in news? At a ceremony held between the French and Indian governments, **India officially joined** the High Ambition Coalition for Nature and People

Indian Space Association

Indian Space Association (ISpA) was recently formally launched by Prime Minister Modi. It will be the premier **industry association of space and satellite companies.**

Objectives:

- ISpA aims to be a forum of the space industry in the Indian private sector and partner the Government of India and other key stakeholders across space industry segments in making the nation self-reliant in the area as well as to become a global service provider.
- ISpA aims to contribute to the Government of India's vision of making India **Atmanirbhar** and a global leader in the space arena, which is fast emerging as the next growth frontier for mankind.

Functions:

- The association will engage with stakeholders across the ecosystem for the formulation of an enabling policy framework that fulfils the Government's vision.
- ISpA will also work towards building global linkages for the Indian space industry to bring in critical technology and investments into the country to create more high skill jobs.
- ISpA also plans to work in very close coordination with **IN-SPACE** to further the space vision of the Government.

'Lucy' Mission

- This is **NASA's first mission to explore the Jupiter Trojan asteroids.** It is a **solar-powered mission.**
- It is estimated to be over **12 years long**, during the course of which the spacecraft will visit eight asteroids covering a distance of about 6.3 billion km to deepen the understanding of **the "young solar system"**.
- **Aim of the mission:** The mission is designed to understand the composition of the diverse asteroids that are a part of **the Trojan asteroid swarms**, to determine the mass and densities of the materials and to look for and study the satellites and rings that may orbit the Trojan asteroids.
- **Trojan Asteroids:** These asteroids are believed to be the remnants of the early solar system, and studying them will help scientists understand its origins and evolution, and why it looks the way it does.

What is stubble burning?

It is a common practice followed by farmers to prepare fields for sowing of wheat in November as there is little time left between the harvesting of paddy and sowing of wheat.

Impact: Stubble burning results in emission of harmful gases such carbon dioxide, sulphur dioxide, nitrogen dioxide along with particulate matter.

Why farmers opt for stubble burning?

1. They do not have alternatives for utilising them effectively.
2. The farmers are ill-equipped to deal with waste because they cannot afford the new technology that is available to handle the waste material.
3. With less income due to crop damage, farmers are likely to be inclined to light up their fields to cut costs and not spend on scientific ways of stubble management.

Advantages of stubble burning:

- It quickly clears the field and is the cheapest alternative.
- Kills weeds, including those resistant to herbicide.
- Kills slugs and other pests.
- Can reduce nitrogen tie-up.

Effects of Stubble Burning:

- **Pollution:** Open stubble burning emits large amounts of toxic pollutants in the atmosphere which contain harmful gases like methane (CH₄), Carbon Monoxide (CO), Volatile organic compound (VOC) and carcinogenic polycyclic aromatic hydrocarbons. They may eventually cause smog.
- **Soil Fertility:** Burning husk on ground destroys the nutrients in the soil, making it less fertile.
- **Heat Penetration:** Heat generated by stubble burning penetrates into the soil, leading to the loss of moisture and useful microbes.

Covaxin approved for emergency use in 2-18-year-olds

The Subject Expert Committee on Covid-19 has approved the “emergency use” of Bharat Biotech’s Covaxin vaccine for children aged between 2-18 years old.

Covaxin is codenamed as **BBV152**. It is an **inactivated virus**-based COVID-19 vaccine. It was developed by **Bharat Biotech** in association with the Indian Council of Medical Research (ICMR). Bharat Biotech reported the Covaxin is 64 percent effective against asymptomatic cases, 78% effective against

symptomatic cases, 93% effective against severe infection while 65% effective against the Delta variant of coronavirus.

Central Zoo Authority

It is the statutory regulatory body for zoos in India. It was established in 1992. The main objective of the Authority is to complement and strengthen the national effort in conservation of the rich biodiversity of the country, particularly the fauna as per **the National Zoo Policy, 1998**.

Important functions:

- It enforces minimum standards and norms for the upkeep and healthcare of animals in Indian zoos.
- Every zoo in the country is required to obtain recognition from CZA for its operation.
- It can also de-recognise zoos.

Why in the News? Vision Plan (2021-2031) for Indian Zoos was recently released. The vision plan is aimed at upgrading Indian zoos and strengthening the Central Zoo Authority (CZA).

Vision Plan (2021-2031): Vision plan is a strategy to transform Indian zoos. The 10-year vision plan was released after extensive data mining & consultation with the stakeholders. The plan was adopted with the aim of giving a direction towards ex-situ conservation approaches across India. It also mentions 10 pillars of change for Central Zoo Authority (CZA) & Indian zoos. These pillars comprise of strengthening ex situ conservation of endangered native species, management of rescued animals and optimizing animal welfare.

Economics

Nobel Prize in Economics 2021

- Three United States-based economists namely, David Card, Joshua D Angrist and Guido W Imbens have been conferred the “Nobel prize in Economics 2021”.
- David Card has been conferred the award “for his empirical contributions to labour economics”. He analysed the effects of minimum wages, immigration and education on the labour market.
- Angrist and Imbens have been awarded “for their methodological contributions to the analysis of causal relationships”. Both of them developed a research framework which have been adopted by many researchers who work with observational data.

Maharatna Status to Power Finance Corporation

Central Government has given “Maharatna” status to **Power Finance Corporation (PFC)**. PFC has become the 11th state-owned entity in India to enter the Maharatna category.

Criteria: Maharatna status is accorded to a company that has recorded more than net profit of Rs 5,000 crore for three consecutive years or average annual turnover of Rs 25,000 crore for three years. In order to get the status, company should have the average annual net worth of Rs 15,000 crore for three years. Company should also have global footprints or operations.

Why is there a coal crisis in India?

On October 1, the power ministry said that the 135 thermal power plants in the country had only an average of about 4 days of coal stocks left. This is worrisome because coal-fired plants make up nearly 70% of India's power source mix.

Reasons for the shortage:

- Heavy September rains in coal mining areas hit production and delivery and plants failed to build up their stocks pre monsoon.
- Diamond had outstripped supply, despite increased buying from coal India.
- Increase in Power Demand as the economy is recovering from the Covid-19 pandemic.
- Slower imports along with high international prices of coal have led to cut in imports

Recent Reforms In Coal Sector:

- Commercial mining of coal allowed, with 50 blocks to be offered to the private sector.
- Entry norms will be liberalised as it has done away with the regulation requiring power plants to use "washed" coal.
- Coal blocks to be offered to private companies on revenue sharing basis in place of fixed cost.
- **Coal gasification/liquefaction** to be incentivised through rebate in revenue share.
- **Coal bed methane (CBM)** extraction rights to be auctioned from Coal India's coal mines.

Challenges ahead:

1. Coal is the most important and abundant fossil fuel in India. It accounts for 55% of the country's energy needs. The country's industrial heritage was built upon indigenous coal.
2. Commercial primary energy consumption in India has grown by about 700% in the last four decades.
3. The current per capita commercial primary energy consumption in India is about 350 kgoe/year which is well below that of developed countries.
4. Driven by the rising population, expanding economy and a quest for improved quality of life, energy usage in India is expected to rise.

5. Considering the limited reserve potentiality of petroleum & natural gas, eco-conservation restriction on hydel project and geo-political perception of nuclear power, coal will continue to occupy centre-stage of India's energy scenario.

“PM-MITRA” Scheme

- The scheme aims to realize the vision of building an **Aatmanirbhar Bharat** by positioning India strongly on the Global textiles map.
- It is inspired by **the 5F vision** of Hon'ble Prime Minister –**Farm to Fibre to Factory to Fashion to Foreign**.
- The scheme aims to create a world-class industrial infrastructure that would attract cutting-edge technology and boost FDI and local investment in the sector.
- Sites for the scheme will be selected by a Challenge Method, based on objective criteria for **Greenfield / Brownfield sites**. **Greenfield describes a completely new project that has to be executed from scratch, while a brownfield project is one that has been worked on by others.**

GI Tag for Karuppur kalamkari paintings, Kallakurichi wood carvings

- The traditional dye-painted figurative called Karuppur Kalamkari Paintings, and Kallakuruchi wood carvings have received the Geographical Indication (GI) tag.
- The Karuppur Kalamkari Paintings are done in Thanjavur region. These are traditional dye-painted figurative and patterned clothes. They are made for temples like ceiling cloth, cylindrical hangings, umbrella covers and chariot covers.
- **Kallakurichi Wood Carvings** are done for designs and ornaments. These are indigenous to Madurai region

Global Multidimensional Poverty Index 2021

Global Multidimensional Poverty Index 2021 was released by “United Nations Development Programme (UNDP)” and “Oxford Poverty & Human Development Initiative (OPHI)”.

The Multidimensional Poverty Index (MPI) was launched by the UNDP and the OPHI in the year 2010.

MPI uses three dimensions and ten indicators including:

1. **Education:** Years of schooling and child enrolment (1/6 weightage each)
 2. **Health:** Child mortality and nutrition (1/6 weightage each)
 3. **Standard of living:** Electricity, drinking water, flooring, sanitation, cooking fuel and assets (1/18 weightage each).
- This report examines the level and composition of multidimensional poverty across 109 countries covering 5.9 billion people.

- It also takes into account several deprivations that people experience in their day to day lives such as poor health, inadequate education and poor standard of living.
- As per report, 1.3 billion people are multidimensionally poor, of which around 644 million are children under age 18.
- 85 percent of them live in Sub-Saharan Africa (556 million) or South Asia (532 million).
- 67 percent of the poor live in middle-income countries.
- Scheduled Tribe group in India, which accounts for 9.4 percent of the population, is poorest. Out of 129 million people, 65 million are living in multidimensional poverty.

Current Affairs Update (Oct 16-23)

National

Border Security Force (BSF) jurisdiction extended

- The Ministry of Home Affairs (MHA) has extended the jurisdiction of the Border Security Force (BSF) up to 50 km inside the international borders in **Punjab, West Bengal and Assam**.
- At the same time, the Ministry has reduced BSF's area of operation in Gujarat from 80 km from the border, to 50 km.
- The government said it was exercising the powers under **the Border Security Force Act of 1968**.
- The **BSF's powers — which include arrest, search and seizure** — were limited to up to 15 km in these states.

Background: In its 2014 notification, the MHA had outlined BSF's jurisdiction as "the whole of the area comprised in the States of Manipur, Mizoram, Tripura, Nagaland and Meghalaya and so much of the area comprised within a belt of eighty kilometres in the State of Gujarat, fifty kilometres in the State of Rajasthan and fifteen kilometres in the States of Punjab, West Bengal and Assam, running along the borders of India".

PM GatiShakti

"PM GatiShakti — **National Master Plan**" for infrastructure development has been launched. It aims to boost multimodal connectivity and drive down logistics costs.

It is a **digital platform that connects 16 ministries** — including Roads and Highways, Railways, Shipping, Petroleum and Gas, Power, Telecom, Shipping, and Aviation. It aims to ensure **holistic planning and execution of infrastructure projects**.

The objective is to ensure that "each and every department now have visibility of each other's activities providing critical data while planning and execution of projects in a comprehensive manner. Through this, **different departments will be able to prioritise their projects through cross-sectoral interactions**.

It will also **boost last-mile connectivity** and bringing down logistics costs with integrated planning and reducing implementation overlaps.

Mount Harriet renamed after Manipur

The Centre has rechristened **Mount Harriet, a historical tourist spot in the Andaman and Nicobar islands, as 'Mount Manipur'**.

After the **Anglo-Manipur War of 1891**, several Manipuris who had fought the British in the war, including **Maharaja Kulachandra Dhwaja Singh**, were exiled to the British penal colony in the Andaman Islands. Since the **cellular jail (Kalapani)** was yet to be built, Kulachandra and the prisoners were kept on Mount Harriet, a hillock in what is now the Ferragunj tehsil of South Andaman district.

AMRUT 2.0

The Union Cabinet has approved the **Atal Mission for Rejuvenation and Urban Transformation 2.0 (AMRUT 2.0)** till 2025-26.

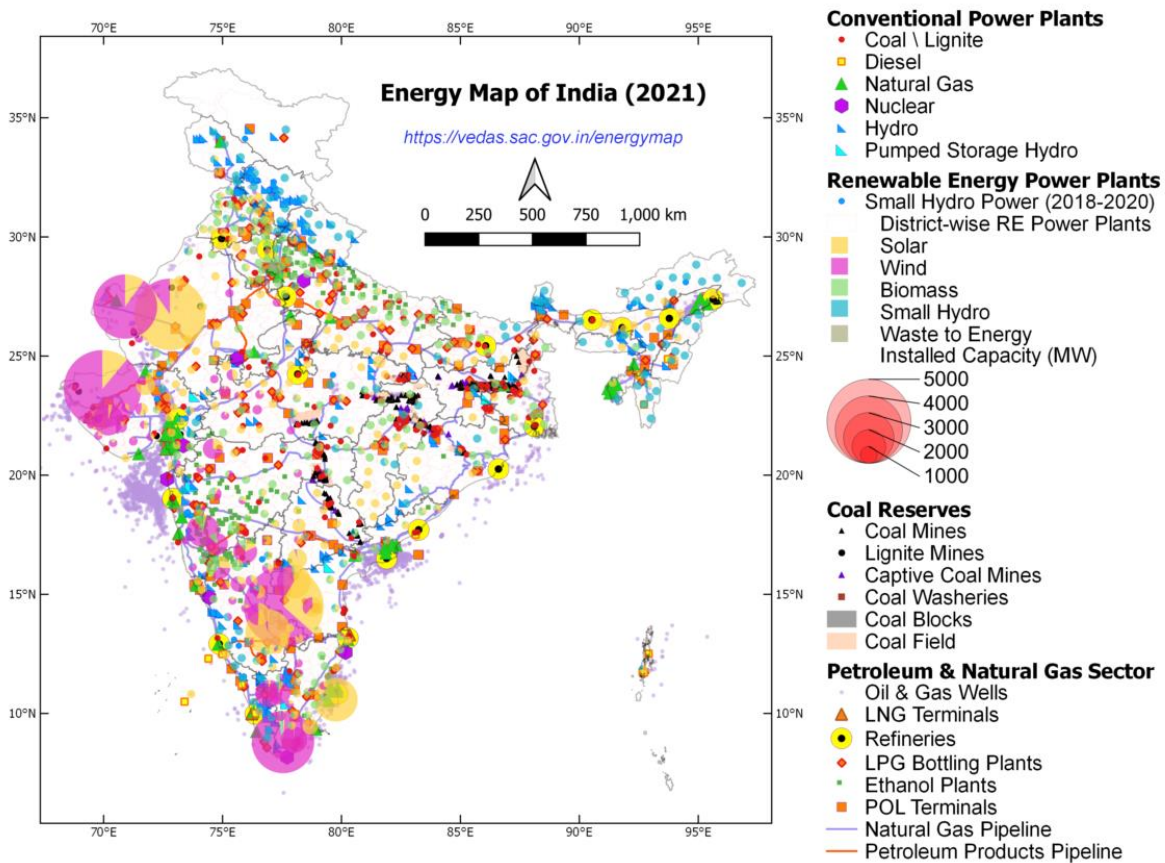
Highlights:

- **100% coverage** of water supply to all households in around 4,700 urban local bodies by providing about 68 crore tap connections.
- **100% coverage of sewerage and septage** in 500 AMRUT cities by providing around 64 crore sewers/ septage connections.
- **Adopt the principles of Circular Economy** (Generating wealth from waste using 3Rs)
- Promote conservation and rejuvenation of surface and groundwater bodies.
- **Data led governance** in water management
- Technology Sub-Mission to leverage latest global technologies and skills.
- **'Pey Jal Survekshan'**: To promote competition among cities.

Geospatial Energy Map of India

NITI Aayog has launched Geospatial Energy Map of India. Geospatial Energy Map, **enables visualisation of energy installations** such as conventional power plants, oil and gas wells, petroleum refineries, coal fields and coal blocks, district-wise data on renewable energy power plants and renewable energy resource potential, etc **through 27 thematic layers**. This comprehensive **Geographic Information System (GIS) Energy Map** of India has been developed by NITI Aayog in collaboration with Indian Space Research Organisation (ISRO).

The GIS map provides a **holistic picture of all energy resources** of the country.



International

UN Human Rights Council

- India gets re-elected to **UN Human Rights Council** for 6th term with overwhelming majority.
- **Composition:** The UNHRC has 47 members serving at any time with elections held to fill up seats every year, based on allocations to regions across the world to ensure geographical representation.
- **Term:** Each elected member serves for a term of three years. Countries are disallowed from occupying a seat for more than two consecutive terms.
- **Headquartered** in Geneva, Switzerland.
- **Function:** The UNHRC passes **non-binding resolutions on human rights issues** through a periodic review of all 193 UN member states called **the Universal Periodic Review (UPR)**.

Challenges and Need for reforms:

- The human rights record of the member-states such as Saudi Arabia, China and Russia in the council has also not been in line with the aims and mission of the UNHRC, which has led to critics questioning its relevance.
- Despite the continued participation of several western countries in the UNHRC, they continue to harbour misgivings on the understanding of Human rights.
- Non-compliance has been a serious issue with respect to the UNHRC's functioning.
- Non-participation of powerful nations such as the US.

Global Hunger Index 2021

Global Hunger Index 2021, which is prepared jointly by Irish aid agency called 'Concern Worldwide' and German organisation called 'Welt Hunger Hilfe', was released. The Index termed the hunger level in India as alarming.

GHI score is calculated on the basis of four indicators namely,

1. **Undernourishment**
2. **Child wasting** (share of children aged under five who are wasted i.e., those having low weight for their height).
3. **Child stunting** (children aged under five who are having low height for their age).
4. **Child mortality** (mortality rate of children aged under five).

India's performance: In the index, India has been placed to 101st position out of 116 countries. In 2020, India's was positioned at 94th. In 2021 edition, India has been placed behind its neighbour countries Pakistan, Bangladesh and Nepal.

In the index, eighteen countries such as China, Brazil and Kuwait, shared the top rank.

International Monetary and Financial Committee

International Monetary and Financial Committee meeting was held recently. The meeting was attended by Governors/Alternate Governors representing 190-member countries of **the IMF**. The discussions at the meeting centered on "**vaccinate, calibrate and accelerate**" which is the theme of the Managing Director's Global Policy Agenda.

Composition: The IMFC has 24 members, drawn from the pool of 187 governors. Its structure mirrors that of the Executive Board and its 24 constituencies. As such, the IMFC represents all the member countries of the Fund.

Functions: The IMFC meets twice a year, during the Spring and Annual Meetings. The Committee discusses matters of common concern affecting the global economy and also advises the IMF on the direction its work.

The IMFC advises and reports to the IMF Board of Governors on the supervision and management of the international monetary and financial system, including on responses to unfolding events that may disrupt the system.

India, US, UAE, and Israel form a new QUAD

India, Israel, United States and United Arab Emirates (UAE) are ready to build on momentum created by “Abraham Accords” by holding the first meeting of their foreign ministers. The meeting is being described in some quarters as a “new Quad”.

Abraham Accords are a joint statement between Israel, the US and the UAE. It was signed on August 13, 2020. The term was also used to refer to normalisation agreements between Israel & UAE and Israel & Bahrain collectively. The accords have been named after Abraham, emphasizing the shared belief between Judaism and Islam. Both of them are Abrahamic religions which strictly support monotheistic worship of the God of Abraham.

Benefits of the new Quad:

1. Beyond trade, there is potential for India, UAE and Israel to collaborate on many areas — from semiconductor design and fabrication to space technology.
2. With the new alliance, India can use this platform to harness various opportunities like Big data, AI, Quantum computing, export its products in their market etc.
3. The group will help to focus on non-military issues like trade, energy, and environment and on promoting public goods.
4. The platform will help India to pursue wide-ranging minilateral partnerships in the region. With major powers like France, Russia, China drawn to this region, the alliance will help India to shape its position in changing the geopolitics of this region.

Eco Oscars

An Indian Project, **Takachar’s Innovation**, that recycles agricultural waste into fuel has won the “**Prince William’s inaugural Earthshot Prize**”, which is also called as “Eco Oscars. This award is presented with the aim of providing assistance to and inspire innovative local solutions as the climate crisis is growing globally.

Takachar’s Innovation is led by **Vidyut Mohan**. This technology was recognised for its affordable technology in order to convert crop residues into sellable bio-products. It reduced smoke emissions by

98 per cent. Thus, it calls for improving air quality. Vidyut Mohan was awarded for this technology in “clean our air category”. This award was among five other winners of the prize worldwide.

Science-Tech & Environment

NASA’s Perseverance rover

The first scientific analysis of images taken by NASA’s Perseverance rover has now confirmed that Mars’ Jezero crater — which today is a dry, wind-eroded depression — was once a quiet lake, fed steadily by a small river some 3.7 billion years ago. The images also reveal evidence that the crater endured flash floods. This flooding was energetic enough to sweep up large boulders from tens of miles upstream and deposit them into the lakebed, where the massive rocks lie today

Why countries are exploring Mars?

- Mars is located in the very near backyard (about 200 million km away).
- It is a planet that humans can aspire to visit or to stay for a longer duration.
- Mars had flowing water and an atmosphere in the distant past: and perhaps conditions to support life.
- It also has implications for commercial travel.

What are green crackers?

‘Green crackers’ are low-emission fireworks that Supreme Court in 2017 had permitted for celebrations to a moderate level during festivals & relaxed the ‘complete ban’ on fireworks. Green crackers were researched and developed by CSIR-NEERI (Council of Scientific & Industrial Research – National Environmental Engineering Research Institute). These crackers are produced with less harmful raw materials and are they suppresses the dust when they are burnt, reducing the emissions.

Do they contain harmful chemicals?

Green Crackers do not comprise of harmful chemicals like arsenic, lithium, barium, and lead. They release water vapour which does not allow the dust to rise. These crackers are believed to cause 30 per cent less particulate matter pollution as compared to traditional crackers.

Kunming Declaration

The “Kunming Declaration” was adopted by over 100 countries in the ongoing virtual 15th meeting of the Conference of the Parties (COP) to **the United Nations Convention on Biological Diversity (UNCBD)**.

Theme of the COP-15: “Ecological Civilization: Building a Shared Future for All Life on Earth”.

Kunming Declaration:

- It calls upon the parties to “mainstream” biodiversity protection in decision-making and recognise the importance of conservation in protecting human health.
- By adopting this, the nations have committed themselves to support the development, adoption and implementation of an effective post-2020 implementation plan, capacity building action plan for the Cartagena Protocol on biosafety.

30 by 30 Target: The declaration made a reference to the ‘30 by 30’ target which is a key proposal being debated at the COP15, that would afford 30% of the Earth’s land and oceans protected status by 2030.

Apart from this, the goal to halve the use of chemicals in agriculture and stop creating plastic waste is also being debated.

The Convention on Biological Diversity (CBD) entered into force on 29 December 1993. It has 3 main objectives:

- The conservation of biological diversity.
- The sustainable use of the components of biological diversity.
- The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

The Convention was opened for signature on 5 June 1992 at the United Nations Conference on Environment and Development (the Rio “Earth Summit”).

Yudh Abhyas 2021

India and the United States conducted mega military exercise in **Alaska** in a bid to further deepen bilateral military cooperation between both the countries. Year 2021 will mark the 17th edition of the exercise “Yudh Abhyas”.

Exercise Cambrian Patrol

- Indian Army team won the gold medal in Exercise Cambrian Patrol organised at Brecon, Wales (UK).
- Ex Cambrian Patrol is referred to as **the ‘Olympics of Military Patrolling’** among militaries in the world.
- Organised by the UK Army, it is considered the ultimate test of human endurance and team spirit.

Ebola Outbreak

Ebola resurfaces in Democratic Republic of Congo 4 months after outbreak contained. In May 2021, **the Democratic Republic of the Congo (DRC) officially declared the end of the 12th Ebola outbreak.**

Ebola virus disease (EVD), formerly known as **Ebola haemorrhagic fever**, is a severe, often fatal illness in humans.

Transmission: The virus is transmitted to people from wild animals and spreads in the human population through human-to-human transmission.

The average EVD case fatality rate is around 50%. Case fatality rates have varied from 25% to 90% in past outbreaks.

Treatment: Early supportive care with rehydration, symptomatic treatment improves survival. There is yet no licensed treatment proven to neutralise the virus but a range of blood, immunological and drug therapies are under development.

International Solar Alliance General Assembly

The fourth general assembly of The **International Solar Alliance (ISA)**, is being held virtually. It is presided over by Minister for Power, New and Renewable Energy, Government of India and the President of the ISA Assembly.

The Fourth Assembly of the ISA will deliberate on the key initiatives around the **operationalisation of the OSOWOG initiative**, the \$1 trillion Solar Investment Roadmap for 2030, and approval of a **Blended Financial Risk Mitigation Facility**.

The Assembly is the **apex decision-making body of International Solar Alliance (ISA)**, in which each member country is represented. The Assembly is the **apex decision-making body of International Solar Alliance (ISA)**, in which each member country is represented.

China's hypersonic glide vehicle test

China tested a **nuclear-capable hypersonic glide vehicle** that circled the globe before speeding towards its target. **Hypersonic speeds** are 5 or more times the speed of sound. These missiles are harder to intercept and can be manoeuvred.

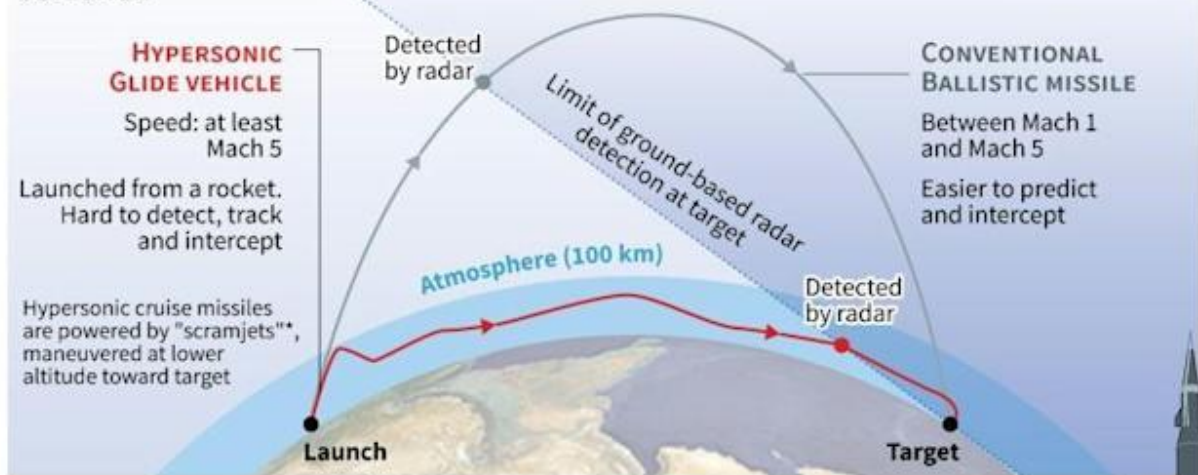
The weapon could, in theory, fly over the South Pole. That would pose a big challenge for the US military because its missile defence systems are focused on the northern polar route.

Cryogenic Engines	Scram jet Engines
No air intake is required in this engine	Air intake is required to operate this engine
Fuel needs to be stored at very low temperature	Fuel storage does not require low temp like cryogenic
It runs efficiently when low temperature fuel transforms and mixes correctly and ignites.	It runs efficiently at supersonic speed that forcefully compress air before combustion
India is the sixth nation apart from the US, Russia, France, Japan and China to possess cryogenic engine technology.	India is the fourth country apart from US, Russia and ESA to demonstrate the flight testing of a Scramjet Engine.
Its cost of payload is independent of oxidizer	Since oxidizer saves the cost, It can carry more payload

Hypersonic weapons

Considered the next generation of arms with conventional or nuclear warheads that are hard to detect and can travel more than five times the speed of sound

TRAJECTORY AND DETECTION



GLOBAL HYPERSONIC WEAPONS PROGRAMMES




ADVANCED (latest developments)

-  Russia had completed two launches of hypersonic cruise missiles, including one from submerged submarine in October
-  US successfully tested a scramjet-powered hypersonic in September
-  China launched a nuclear-capable hypersonic missile but missed target in August

DEVELOPING, COUNTRIES INCLUDE

-  Australia
-  India
-  France
-  Japan
-  Germany

BASIC RESEARCH

-  Iran
-  South Korea
-  Israel

-  North Korea claimed to have tested a hypersonic gliding missile (Hwasong-8) in September

Sources: Congressional Research Service/MDAA/UCS/Stratfor/KCNA/FT

*Supersonic combustion ramjets

AFP

Henrietta Lacks

- Henrietta Lacks, an African-American woman who died 70 years ago of cervical cancer, was bestowed a **posthumous honour by the World Health Organization (WHO)** October 13, 2021.
- Her biopsy samples, collected without her consent or understanding, made possible innumerable breakthroughs in medical sciences and also aided research on the novel coronavirus disease (COVID-19).
- Her 'cell line' — the first immortal line of human cells to divide indefinitely in a laboratory — was critical for the development of **the human papillomavirus (HPV) vaccine**, the polio vaccine, drugs for HIV and cancers.

- Called '**HeLa**' cells, **Lack's bioses** were also of paramount importance in research on Parkinson's disease, reproductive health (including in vitro fertilisation), chromosomal conditions, gene mapping and precision medicine.

Air Quality Early Warning System (AQEWS) enhanced

The system has been developed by **Indian Institute of Tropical Meteorology**, Pune. This system uses **data of stubble burning incidents** from last 15 years for predicting date and place of next burning. This data is then correlated with **wind speed** for predicting air pollution level for next 72 hours. AQEWS can also forecast the level of pollutants such as particulate matter (**PM**) **2.5, PM10, and dust**, which come from sources other than stubble burning. Early warning of pollution helps in providing data and time to the authorities for responding to it in a time bound manner.

The warning system comprises of:

1. Real time observations of air quality and details about natural aerosols like dust & particulate matter using satellite data sets.
2. Predictions of air pollutants coming from two different air quality prediction systems on the basis of state-of-the-art atmospheric chemistry transport models.
3. Providing Warning Messages, Alerts & Bulletins.

International E-Waste Day

- International **E-Waste** Day has been observed on **October 14** every year since 2018.
- Last year's Global E-waste Monitor reported that 53.6 MT of waste electronic and electrical equipment were generated in 2019.
- That represented a 21 per cent jump in the five years since 2014 (with e-waste predicted to reach 74 MT by 2030).
- E-waste generation was increasing annually by 2 MT.
- The rise is attributed to a higher consumption rate of electronics, shorter product lifecycles and limited repair options.
- According to the Central Pollution Control Board (CPCB), India generated more than 10 lakh tonnes of e-waste in 2019-20, an increase from 7 lakh tonnes in 2017-18. Against this, the e-waste dismantling capacity has not been increased from 82 lakh tonnes since 2017-18.
- In 2018, the Ministry of Environment had told the tribunal that 95% of e-waste in India is recycled by the informal sector and scrap dealers unscientifically dispose of it by burning or dissolving it in acids.

Economics

G7 guidelines for central bank digital currencies

- Any digital currency issued by a central bank must “support and do no harm” to the bank’s ability to fulfil its mandate on monetary and financial stability, and must also meet rigorous standards.
- Currencies must be issued in a way that do not infringe upon the central banks’ mandates, and meet rigorous standards of privacy, transparency and accountability for protection of user data.
- Any central bank digital currency (CBDC) should be grounded in long-standing public commitments to transparency, rule of law and sound economic governance.

What is the CBDC or National Digital currency?

A Central Bank Digital Currency (CBDC), or national digital currency, is simply the digital form of a country’s fiat currency. Instead of printing paper currency or minting coins, the central bank issues electronic tokens. This token value is backed by the full faith and credit of the government.

Need for CBDC:

- An official digital currency would reduce the cost of currency management while enabling real-time payments without any inter-bank settlement.
- India’s fairly high currency-to-GDP ratio holds out another benefit of CBDC — to the extent large cash usage can be replaced by CBDC, the cost of printing, transporting and storing paper currency can be substantially reduced.
- The need for inter-bank settlement would disappear as it would be a central bank liability handed over from one person to another.

Challenges in rolling out National Digital Currency:

- Potential cybersecurity threat.
- Lack of digital literacy of the population.
- Introduction of digital currency also creates various associated challenges in regulation, tracking investment and purchase, taxing individuals, etc.
- Threat to Privacy: The digital currency must collect certain basic information of an individual so that the person can prove that he’s the holder of that digital currency.

Current Affairs Update (Oct 24-31)

National

Framework for traffic management of drones

The Civil Aviation Ministry has notified a **traffic management framework for drones**. The framework has been issued under **the Drone Rules 2021**.

Overview of the framework:

1. **Public and private third-party service providers** will manage their movement in the **airspace under 1,000 feet**.
2. The framework **allows third-party service providers to give services** such as registration, flight planning, dynamic deconfliction and access to supplementary data like weather, terrain and position of manned aircraft.
3. Also, **a set of supplementary service providers will also be permitted** under the framework to provide services such as insurance and data analytics to support the UAS (unmanned aircraft system) Traffic Management (UTM) ecosystem.
4. **All drones (except Nano drones operating in the green zone)** shall be required to mandatorily share their real-time location through the network to the Centre either directly or through third-party service providers.
5. **Service providers will be permitted to charge drone operators a service fee** and a small portion of it might have to be shared with **the Airports Authority of India (AAI)**, which manages the ATM.

Need for stricter rules and regulations:

- Recently, **Drones were used for the first time to drop explosive devices**, triggering blasts inside the Air Force Station's technical area in Jammu.
- Over the past two years, drones have been deployed regularly by Pakistan-based outfits to smuggle arms, ammunition and drugs into Indian territory.
- With the rapid proliferation of drone technology and exponential growth of its global market in recent years, the possibility of a drone attack cannot be ruled out even in the safest cities in the world.
- Drones are becoming security threats particularly in conflict zones where non-state actors are active and have easy access to the technology.

The Unlawful Activities (Prevention) Act

- Passed in 1967, the law aims at **effective prevention of unlawful activities associations in India.**
- The Act assigns **absolute power to the central government**, by way of which if the Centre deems an activity as unlawful then it may, by way of an Official Gazette, declare it so.
- It has death penalty and life imprisonment as highest punishments.
- Under UAPA, **both Indian and foreign nationals can be charged.**
- It will be **applicable to the offenders in the same manner, even if crime is committed on a foreign land, outside India.**
- Under the UAPA, **the investigating agency can file a charge sheet in maximum 180 days after the arrests and the duration can be extended further after intimating the court.**

Pegasus snooping

Stressing that the power of the state to snoop in the name of national security into the “sacred private space” of individuals is not absolute, the Supreme Court has appointed **an expert technical committee overseen by former Supreme Court judge R.V. Raveendran** to examine allegations that the Centre used Israeli software Pegasus to spy on citizens.

The continued use of spyware Pegasus, which an Israeli company sells to governments worldwide, has been confirmed with fresh reports. Like the phones it targets, Pegasus has been apparently updated and now comes with new surveillance capabilities.

What is Judicial Review?

- Judicial review is the power of Judiciary to review any act or order of Legislative and Executive wings and to pronounce upon the constitutional validity when challenged by the affected person.
- The power of Judicial Review comes from the Constitution of India itself (Articles 13, 32, 136, 142 and 147 of the Constitution).
- The power of judicial review is evoked to protect and enforce the fundamental rights guaranteed in Part III of the Constitution.
- Article 13 of the Constitution prohibits the Parliament and the state legislatures from making laws that “may take away or abridge the fundamental rights” guaranteed to the citizens of the country.
- The provisions of Article 13 ensure the protection of the fundamental rights and consider any law “inconsistent with or in derogation of the fundamental rights” as void.

Kushinagar

Prime Minister Narendra Modi recently inaugurated **the Kushinagar international airport**. The airport in eastern UP, **the third international airport** in the election-bound state, will mainly service **the Buddhist tourism circuit**.

- Among the most important of Buddhist pilgrimages, **Kushinagar was where The Buddha attained Mahaparinirvana** (ultimate salvation) in c. 483 BC.
- Today's Kushinagar is identified with **Kushinara, capital of the ancient Malla republic**, which was one of the 16 **mahajanapadas** of the 6th-4th centuries BC.
- The area went on to be **part of the kingdoms of the Mauryas, Shungas, Kushanas, Guptas, Harshavardhana, and the Palas.**
- The first excavations in Kushinagar were carried out by **Alexander Cunningham and ACL Carlleyle**, who unearthed the main stupa and the 6-metre-long statue of **the Reclining Buddha in 1876.**

La Niña

The National Oceanic and Atmospheric Administration (NOAA) recently declared that **La Niña** has re-developed. Consecutive La Ninas following a transition through ENSO neutral conditions are not uncommon and can be referred to as a **"Double-Dip."**

Weather changes because of La Nina:

1. The Horn of Africa and central Asia will see below average rainfall due to La Niña.
2. East Africa is forecast to see drier-than-usual conditions, which together with the existing impacts of the desert locust invasion, may add to regional food insecurity.
3. It could also lead to increased rainfall in southern Africa.
4. It could also affect the South West Indian Ocean Tropical Cyclone season, reducing the intensity.
5. Southeast Asia, some Pacific Islands and the northern region of South America are expected to receive above-average rainfall.
6. In India, La Niña means the country will receive more rainfall than normal, leading to floods.

National Fund to Control Drug Abuse

The Social Justice and Empowerment Ministry has recently recommended that **the National Fund to Control Drug Abuse** be used to carry out de-addiction programmes, rather than just policing activities.

- It was created in accordance with a provision of **the Narcotic Drugs and Psychotropic Substances Act, 1985.**
- It had a nominal corpus of ₹23 crore.
- **Funding: Under the NDPS Act**, the sale proceeds of any property forfeited, grants made by any person and institution, and income from the investments of the fund, go towards the fund.

- **Usage of the fund:** The Act states that the fund would be used to combat illicit trafficking of narcotics, rehabilitating addicts, and preventing drug abuse.

Indian Government initiatives to deal with drug trafficking problem

1. The **'Nasha Mukht Bharat Abhiyaan'** or a **'Drugs-Free India Campaign'** was flagged off on 15th August 2020 across 272 districts of the country found to be most vulnerable based on the data available from various sources.
2. Ministry of Social Justice & Empowerment has begun implementation of a **National Action Plan for Drug Demand Reduction (NAPDDR) for 2018-2025**.
3. The government has constituted **Narco-Coordination Centre (NCORD)** in November, 2016.
4. The government has constituted a fund called **"National Fund for Control of Drug Abuse"** to meet the expenditure incurred in connection with combating illicit traffic in Narcotic Drugs; rehabilitating addicts, and educating public against drug abuse, etc

Dadasaheb Phalke Award

- It is **the country's highest film honour** conferred for "Outstanding contribution for the growth and development of Indian cinema".
- Dadasaheb Phalke Award was **introduced by the government in 1969** and it was awarded for the first time to Devika Rani, "the first lady of Indian cinema".
- Dadasaheb Phalke directed **India's first feature film Raja Harischandra (1913)**. He is known as **"Father of Indian Cinema"**.
- 51st Dadasaheb Phalke Award was recently presented to Rajinikanth.

Ayushman Bharat Health Infrastructure Mission

- The scheme aims at **strengthening healthcare infrastructure across the country**.
- Its objective is to fill gaps in public health infrastructure, especially in critical care facilities and primary care in both urban and rural areas.
- Through this, **critical care services** will be **available in all the districts of the country with more than five lakh population** through **exclusive critical care hospital blocks**, while the remaining districts will be covered through referral services.
- People will have access to a full range of diagnostic services in the public healthcare system through a network of laboratories across the country, and integrated public health labs will be set up in all the districts.
- **Integrated public health labs will also be set up in all districts**, giving people access to "a full range of diagnostic services" through a network of laboratories across the country.
- **An IT-enabled disease surveillance system** will be established through a network of surveillance laboratories at block, district, regional and national levels.

- All the public health labs will be connected through **the Integrated Health Information Portal**, which will be expanded to all states and UTs.

International

Pakistan to remain on “Grey List”

Pakistan will continue to be on **the “Grey List”** of **the FATF** as it needs to “further demonstrate” that action is being taken against UN-designated terrorists like India’s most wanted Hafiz Saeed and Masood Azhar, and groups led by them. Pakistan was put on the grey list by the Paris-based FATF in June 2018, and the country has been struggling to come out of it.

The Financial Action Task Force (FATF) is an inter-governmental body **established in 1989 on the initiative of the G7**. It is a “policy-making body” which works to generate the necessary political will to bring about national legislative and regulatory reforms in various areas. The FATF Secretariat is housed at the OECD **headquarters in Paris**.

The FATF currently comprises 37 member jurisdictions and 2 regional organisations, representing most major financial centres in all parts of the globe.

Black List: Countries known as Non-Cooperative Countries or Territories (NCCTs) are put in the blacklist. These countries support terror funding and money laundering activities. The FATF revises the blacklist regularly, adding or deleting entries.

Grey List: Countries that are considered safe haven for supporting terror funding and money laundering are put in the FATF grey list. This inclusion serves as a warning to the country that it may enter the blacklist.

Mauritius out of FATF grey list

- The **Financial Action Task Force (FATF)** has moved **Mauritius** out of its **grey list**.
- Mauritius, which has been one of the largest contributors of FDI, has been recently losing out to jurisdictions like Singapore, Cayman Island, etc., partly because of amendment in the tax treaty with India and also due to it being put on the FATF grey list.
- Mauritius was put on the list in February 2020. After inclusion in the list, FDI inflow from Mauritius fell from Rs 57,785 crore in 2019-20 to Rs 41,661 crore in 2020-21.
- **Implications for India:** The move would enable Indian non-banking and other financial services companies to receive foreign direct investment from funds and vehicles incorporated by international investors in Mauritius. This may indirectly lead to higher investment to India from the Island nation.

- It is also expected that now there would be less scrutiny by custodian banks on the 'beneficial ownership' (BO) of Mauritius vehicles coming in as FPI and FDI.

Anita Anand

Prime Minister of Canada Justin Trudeau reshuffled his cabinet. He has appointed Indian-origin Canadian politician Anita Anand as new Defence Minister of Canada. Anita Anand (54-year-old) will replace Indian-origin Harjit Sajjan.

Uighurs

The Uighurs are a predominantly **Muslim minority Turkic ethnic group**, whose origins can be traced to Central and East Asia.

The Uighurs speak their own language, similar to Turkish, and see themselves as culturally and ethnically close to Central Asian nations.

- China recognises the community only as a regional minority and rejects that they are an indigenous group.
- Currently, the largest population of the Uighur ethnic community lives in the Xinjiang region of China.
- A significant population of Uighurs also lives in the neighbouring Central Asian countries such as Uzbekistan, Kyrgyzstan and Kazakhstan.
- Uighur Muslims for decades, under the false accusation by the Chinese government of terrorism and separatism, have suffered from abuses including persecution, forced detention, intense scrutiny, surveillance and even slavery.
- Forty-three countries have called on China to "ensure full respect for the rule of law" for the Muslim **Uighur** community in **Xinjiang**.

Barbados elects first-ever president, replacing British monarchy

- **Barbados** has elected its first-ever president **to replace the United Kingdom's Queen Elizabeth as head of state in a decisive step towards shedding the Caribbean island's colonial past.**
- Barbados is **a former British colony** that gained independence in 1966, the nation of just less than 300,000 had long maintained ties with the British monarchy. But calls for full sovereignty and homegrown leadership have risen in recent years.
- **Barbados** was **claimed by the British in 1625**. It has sometimes been called "**Little England**" for its loyalty to British customs.
- It is the **Caribbean's easternmost island**.

Rome Summit

- Heads of state and government of G-20 member countries, European Union and other invited countries & international organisations will be attending the G-20 summit.

- G-20 leaders will deliberate on several key challenges like climate change, covid-19 pandemic and overcoming poverty & inequality across the world. They will also discuss the situation in Afghanistan.
- Rome summit has been centred around the theme “People, Planet, Prosperity”. It focuses on areas of recovery from covid-19 pandemic and strengthening the health governance across the world.
- G-20 is a leading global forum that brings together the major economies of the world.
- Members of the grouping account for more than 80 per cent of the World’s GDP, 60 percent of the world’s population and 75 per cent of global trade.

Science-Tech & Environment

Production Gap Report

The **United Nations Environment Programme’s (UNEP)** latest **Production Gap Report** has revealed that 15 of the top fossil fuel producing countries, including India, are not prepared to meet the requirements of the 2015 Paris Climate Agreement.

Highlights of the Production Gap Report:

- Governments are in aggregate planning to produce 110 per cent more **fossil fuels** in 2030 than would be consistent with limiting global warming to 1.5°C, and 45 per cent more than would be consistent with limiting warming to 2°C, on a global level. By 2040, this excess grows to 190% and 89%, respectively.
- The 15 countries analysed as part of the report were responsible for 75 per cent of the world’s fossil fuel production in 2020. They are Australia, Brazil, Canada, China, Germany, India, Indonesia, Kazakhstan, Mexico, Norway, Russia, Saudi Arabia, the United Arab Emirates (UAE), the United Kingdom (UK) and the United States (US).

India’s first IVF calf of Banni breed of buffaloes born

India’s first IVF (in-vitro fertilisation) calf of Banni breed of buffaloes was born at a farmer’s house in Gir Somnath district of **Gujarat**.

Banni breed of buffalo is found primarily in the Kutch region of Gujarat. IVC process was carried out in a bid to enhance the number of genetically superior buffaloes for increasing the milk production. The word ‘Banni’ is specific to not only the buffaloes but **pasture grass species** as well, that are native to this region.

Delta Plus

AY.4.2 is a descendant of the Delta variant of COVID-19. The Delta variant, also known as **B.1.617.2**, was first identified in India in October 2020. The AY.4.2 (dubbed “**Delta Plus**” and now named **VUI-210CT-01** by the UK Health Security Agency (UKHSA)) sub-lineage contains 2 mutations in its spike protein — A222V and Y145H.

Presently, the United Kingdom accounts for 96 per cent cases of AY.4.2, followed by Denmark and Germany at 1 per cent each. It has also been reported in the US, Israel, and Russia. In India, cases have been detected in Madhya Pradesh and Maharashtra.

Mutation means a change in the genetic sequence of the virus. Mutation in an RNA virus often happens when the virus makes a mistake while it is making copies of itself.

Proba-1 completes 20 years

- ESA’s Proba-1 minisatellite was launched two decades ago, into orbit. It has completed 20 years.
- It is the **oldest serving Earth observing mission** of the agency. It started life as a technology demonstration satellite and later became an Earth observation mission.
- Proba-1 mission carry several low-cost, commercial-off-the-shelf systems and components. It is sometimes described as ‘**NewSpace before NewSpace**’. This mission continues to deliver imagery to scientists across the world. It also provides valuable data on longevity of space systems and components.
- ESA is an intergovernmental organisation comprising of **22 member states**. It is dedicated for the exploration of space. ESA was established in **1975**. It is headquartered in **Paris**.

Agni 5

- India successfully tests **nuclear-capable** Agni-V ballistic missile from **APJ Abdul Kalam Island** off Odisha coast..
- The Agni-V Intercontinental-range Ballistic Missile (**ICBM**) has been developed by the Defence Research & Development Organisation (DRDO) and Bharat Dynamics Limited.
- The 1,500-kilogram warhead will be placed on top of the **three-stage rocket** boosters powered by **solid fuel**.
- The missile can range the whole of Asia, Europe and parts of Africa. Once inducted, Agni-V will be maintained by the Strategic Forces command.
- India has already conducted seven trials of the missile, which has a **range of over 5,000 kilometres**.
- The successful launch of the Agni-5 missile aligns with India’s policy to have a “**credible minimum deterrence**”. This policy underpins the commitment of ‘**No First Use**’.

First Zika virus case reported in U.P

- First case of Zika Virus was reported from **Kanpur** in the state of Uttar Pradesh.

- **Causative agent:** Zika virus is a member of the **Flaviviridae virus family**.
- **Vector:** It is spread by daytime-active called named “**Aedes mosquitoes**” like *A. aegypti* and *A. albopictus*.
- **Nomenclature:** The name of the virus comes from “Zika Forest of Uganda” where it was first isolated in 1947.
- Zika virus shares a genus with dengue, Japanese encephalitis, yellow fever, and West Nile viruses.
- **Complication:** The virus can spread from a pregnant woman to her baby, which can result in **microcephaly**, some birth defects and severe brain malformations.
- **Treatment:** there is no specific treatment for the disease.

Economics

What is AGR?

- Adjusted Gross Revenue (AGR) is the usage and licensing fee that telecom operators are charged by the Department of Telecommunications (DoT). It is divided into spectrum usage charges and licensing fees, pegged between 3-5 percent and 8 percent respectively.
- As per DoT, the charges are calculated based on all revenues earned by a telco – including non-telecom related sources such as deposit interests and asset sales.
- **Why in news?** Bharti Airtel has decided to opt for the four-year moratorium on **adjusted gross revenue (AGR) and spectrum payments**, making it the second telco after Vodafone Idea to accept the offer, which was part of the recently announced **telecom relief package**.