



CURRENT AFFAIRS SEPTEMBER 2021

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1. Karbi Anglong Peace Accord:

- Recently, a tripartite agreement among five insurgent groups of Assam, the Centre and the state government was signed.

Highlights of the Karbi-Anglong Peace Agreement:

- **Karbi Outfits Surrendered:** 5 militant organizations (KLNLF, PDCK, UPLA, KPLT and KLF) laid down arms and more than 1000 of their armed cadres have given up violence and joined the mainstream of society.
- **Special Development Package:** A special development package of Rs. 1000 crore will be allocated over five years by the Union Government and the Assam Government to take up special projects for the development of Karbi areas.
- **More Autonomy to KAAC:** This agreement will transfer as much autonomy as possible in exercising their rights to the Karbi-Anglong Autonomous Council, without affecting the territorial and administrative integrity of Assam. Overall, the present agreement proposes to give more legislative, executive, administrative and financial powers to the KAAC.
- **Rehabilitation:** A provision has been made in this agreement to rehabilitate the cadres of armed groups.
- **Development of Local People:** The Government of Assam will set up a Karbi Welfare Council to focus on the development of the Karbi people living outside the KAAC area.
- This agreement will also ensure the protection of the culture, identity, language, etc. of the Karbi people and all-round development of the region. The Consolidated Fund of the State will be amended to meet the resources of the KAAC.

Other Recent Peace Agreements of the Northeast:

- **NLFT Tripura Agreement, 2019:** National Liberation Front of Twipra (NLFT) has been banned under the Unlawful Activities (Prevention) Act, 1967 since 1997 and has been involved in violence, operating from their camps across the international border.
- NLFT signed a Memorandum of Settlement on 10th of August, 2019 with the Government of India and Tripura.
- Under this, a Special Economic Development Package (SEDP) of Rs.100 crore has been offered by the Government of India for a period of five years.
- **Bru Accord, 2020:** Bru or Reang is a community indigenous to Northeast India, living mostly in Tripura, Mizoram and Assam. In Tripura, they are recognised as a Particularly Vulnerable Tribal Group.
- In Mizoram, they have been targeted by groups that do not consider them indigenous to the state.
- In 1997, following ethnic clashes, nearly 37,000 Brus fled Mizoram and were accommodated in relief camps in Tripura.
- Under the Bru accord, the permanent settlement of 6959 Bru families in Tripura with a financial package has been agreed between the Government of India, Tripura and Mizoram with representatives of Bru migrants.
- **Bodo Peace Accord:** Bodos are the single largest community among the notified Scheduled Tribes in Assam. They have been demanding a Bodo state since 1967-68.
- In 2020, the Government of India, Government of Assam and representatives of Bodo groups signed an agreement, wherein the Bodoland Territorial Area District (BTAD) was redrawn and renamed as the Bodoland Territorial Region (BTR), in Assam.

Background:

- Karbi Anglong is located in central Assam, Karbi Anglong is the state's largest district and a melting pot of ethnicities and tribal groups-Karbi, Dimasa, Bodo, Kuki, Hmar, Tiwa, Garo, Man

(Tai speakers), Rengma Naga. Its diversity also generated different outfits and fuelled an insurgency that did not allow the region to develop.

- The Karbis are a major ethnic group of Assam, dotted by several factions and splinters. The history of the Karbi group has been marked by killings, ethnic violence, abductions and taxation since the late 1980s.
- The Karbi Anglong Autonomous Council (KAAC) is an autonomous district council, protected under the Sixth Schedule of the Indian Constitution.
- Insurgent groups of Karbi Anglong district like People's Democratic Council of Karbi Longri (PDCK), Karbi Longri NC Hills Liberation Front (KLNLF), etc. originated from the core demand of forming a separate state.

Some of the other demands of the militant groups are:

- Inclusion of some areas into Karbi Anglong Autonomous Council (KAAC),
- Reservation of seats for Scheduled Tribes,
- More powers to the council,
- Inclusion of Karbi language in the Eighth Schedule,
- Financial package of Rs 1,500 crore.

2. India's 1st Emergency Landing Facility on National Highway:

- Recently, the Union Defence Minister and Union Highways Minister inaugurated the Emergency Landing Facility on a National Highway in Rajasthan.
- This emergency landing facility has been constructed on the Satta-Gandhav stretch of National Highway (NH) 925A in Barmer, Rajasthan.
- On the occasion, **C-130J Super Hercules** transport aircraft of Indian Air Force (IAF) landed at the emergency field landing at the National Highway in Jalore, Rajasthan.
- This is the first time; a National Highway will be used for emergency landing of IAF aircraft.
- The **National Highways Authority of India (NHAI)** developed this three kilometres section of the Satta-Gandhav stretch on NH-925A, under the supervision of IAF.
- It is a part of newly developed two-lane stretch of Satta-Gandhav and Gagariya-Bakhasar section in Barmer (Rajasthan). Total length of the highway is 196.97 kilometres, while the length of emergency landing facility is **3.5km**.

National Highways Authority of India (NHAI):

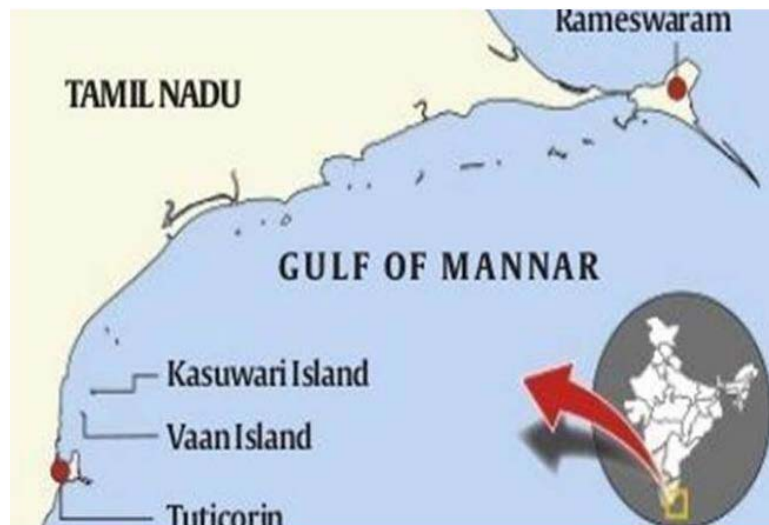
- An autonomous agency of the Government of India (set up in 1995).
- It is responsible for management of a network of over 50329 km of National in India.
- It is a nodal agency of the Ministry of Road Transport and Highways.

3. Tamil Nadu-Denmark plan energy island in Gulf of Mannar:

- Recently, a delegation of experts from **Denmark** met Chief Minister of Tamil Nadu. Both the parties have planned to create an energy island in Gulf of Mannar that lies between the west coast of Sri Lanka and south-eastern tip of India.
- If the plan materialises, it will be **India's first offshore** floating wind park.

Tangedco Solar power projects:

- Tamil Nadu and Denmark made their plan for the investments, days after the Tamil Nadu Generation and Distribution Corporation (Tangedco) announced to launch 20,000 Mw of solar power projects with adequate battery storage, 2,000 Mw of gas-based power units and 3,000 Mw of pumped storage hydroelectric projects. These projects will require loans of about Rs 1.32 trillion.



Gulf of Mannar:

- The Gulf of Mannar, running down south from Rameswaram to Kanyakumari in Tamil Nadu. This Marine Biosphere Reserve encompasses a chain of 21 islands (2 islands already submerged) and adjoining coral reefs off the coasts of the Ramanathapuram and the Tuticorin districts forming the core zone; the Marine National Park and the buffer zone includes the surrounding seascape.
- It supports several globally important species such as the critically endangered **Dugong** (sea cow), all protected sharks (IWPA, 1972) including whale shark, sea horses, green and hawksbill sea turtles, dolphins and sea cucumbers and several endemic species of *Balanoglossus*, sea grass, crabs and mangroves.
- The **Gulf of Mannar** has drawn attention of conservationists even before the initiation of the Man and Biosphere (MAB) program by the UNESCO in 1971.
- Gulf of Mannar between Rameswaram and Tuticorin covering 21 islands and the surrounding shallow coastal waters has been declared as a Marine National Park in 1986 by the Government of Tamil Nadu and later the first Marine Biosphere Reserve of India in 1989 by the Government of India.

4. Jal Shakti Ministry launches Swachh Survekshan Grameen 2021:

- Recently, the Jal Shakti Ministry launched Swachh Survekshan Grameen 2021 or rural cleanliness survey 2021 under Swachh Bharat Mission (Grameen) Phase-II. Before this, the Swachh Survekshan Grameen had been carried out by the Ministry in 2018 and 2019.
- The Swachh Survekshan Urban was introduced by the Ministry of Housing and Urban Affairs (MoHUA) in 2016.

Swachh Survekshan Grameen 2021:

- Assesses the state of hygiene, cleanliness and sanitation in rural India as a part of the Centre's initiative to award Open Defecation Free (ODF) Plus status to villages.
- ODF-plus status aims to ensure management of solid as well as liquid waste and is an upgradation of ODF status in which construction of adequate toilets was required so that people did not have to defecate in the open.
- It is carried out by an expert agency.
- As part of the 2021 rural cleanliness survey, as many as 17,475 villages spanning across 698 districts would be covered.

Weightage to Different Elements:

- Direct Observation of sanitation at public places -30%

- Citizen's Feedback -35%
- Service Level Progress on sanitation related parameters -35%

Swachh Bharat Mission (Grameen) Phase-II:

- It emphasizes the sustainability of achievements under phase I and to provide adequate facilities for Solid/Liquid & plastic Waste Management (SLWM) in rural India.
- It will be implemented from 2020-21 to 2024-25 in a mission mode with a total outlay of Rs. 1,40,881 crores.
- The fund sharing pattern between Centre and States will be 90:10 for North-Eastern States and Himalayan States and UT of J&K; 60:40 for other States; and 100% for other Union Territories.
- Funding Norms for SLWM have been rationalized and changed to per capita basis in place of the number of households.

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5. National Institutional Ranking Framework:

- Recently, the Union Education Minister released the National Institutional Ranking Framework (NIRF), listing the top universities and colleges across India.

Key Points:

- NIRF India Ranking 2021 has been announced for eleven categories, namely, Overall, University, Management, Pharmacy, College, Architecture, Engineering, Medical, ARIIA (Atal Ranking of Institutions on Innovation Achievements), Law and Research Institutions.
- NIRF India Ranking parameters and weighted averages were adopted to rank colleges and universities for all the categories.
- Broad categories adopted to rank the colleges, universities and institutes are- Teaching, Learning and Resources; Graduation Outcomes, Research and Professional Practice; Outreach & Inclusivity and Peer Perception.
- Number of institutes participating in **NIRF** rankings has increased over the years. Thus, categories in which institutes are ranked were changed this year. In 2016, there were four categories to rank the institutes which increased to eleven in 2021.
- About 6,000 colleges and universities participated in the sixth edition of NIRF 2021 Rankings.

Which institute has topped the list?

- IIT Madras has topped the list in the Engineering Category, for the sixth consecutive year.
- IIT Madras also topped the list in overall category.
- IIM Ahmedabad also maintained its top rank in Management category, for the second year.
- In University category, Indian Institute of Science (IISc) Bangalore was at top position.
- Miranda House, Delhi topped the list in college category.
- Jamia Hamdard, New Delhi was ranked at first position in Pharmacy category.
- In Medical Category, All India Institute of Medical Sciences (AIIMS) Delhi was ranked at first position.

6. Railways Ministry closes Indian Railways Organisation for Alternative Fuels:

- Railway Ministry has closed down the Indian Railways Organization of Alternate Fuel (IROAF), in effect from September 7, 2021.
- IROAF is a separate enterprise that works in the field of green fuels for transport. It recently invited bids for hydrogen fuel cell-based technology to run the trains.
- This closure would not affect the ongoing projects or contracts of IROA. With some administrative change, projects will be executed as usual. Work of IROAF will be transferred to Northern Railways and Railway Board.
- Solar power rolling stock or Alternate Fuel Electrical Directorate of the IROAF will be transferred to the Railway Board, while the existing tenders will be handled by Northern Railway.

Experiment with Bio-diesel:

- IROAF to its capacity had experimented with bio-diesel engines, CNG-fuelled engines etc earlier in order to find alternative to diesel. It had also been working on solar-powered trains in line with government's plans to reduce carbon emission by adopting renewable energy by 2022.

Concerns with the set target:

- Indian Railways have not aligned itself with the target of adopting renewable energy by 2022. Only some minor projects and showcase installations have aligned with the target as of now. Railways is doing very little to contribute to the agenda set by Government of India.

About IROAF:

- IROAF is the single window on Indian Railways that deals with work related to use of Alternate fuels, other than the conventional traction. It seeks to introduce Bio Diesel in Indian Railways, convert Diesel Powered Multiple Units (DEMU) to dual fuel using Compressed Natural Gas (CNG). It also seeks to promote the use of Solar Energy in Rolling Stock & Mechanical Assets.

Categories of biofuels:

- Biofuels are generally classified into three categories. They are
1. **First generation biofuels:** First-generation biofuels are made from sugar, starch, vegetable oil, or animal fats using conventional technology. Common first-generation biofuels include Bioalcohols, Biodiesel, Vegetable oil, Bioethers, Biogas.
 2. **Second generation biofuels:** These are produced from non-food crops, such as cellulosic biofuels and waste biomass (stalks of wheat and corn, and wood). Examples include advanced biofuels like biohydrogen, biomethanol.
 3. **Third generation biofuels:** These are produced from micro-organisms like algae.

7. India-Denmark launch 'Centre of Excellence on Offshore Wind':

- Recently, the Union Minister for Power and New & Renewable Energy met Minister for Climate, Energy & Utilities of Denmark, Dan Jorgensen.
- During the meeting, it was highlighted that energy transition towards green is an important part of India's policy.
- India has set a target of 450 Giga Watt of Renewable Energy capacity by 2030. Currently, India's whole renewable energy portfolio is at 146 GW.
- Minister noted that, among G-20 countries, only India's actions are in consonance with the Paris Climate agreement with respect to global rise in temperature.
- India is also looking towards making Ladakh, Andaman Nicobar Island and Lakshadweep Island green in energy and transport.
- Both the ministers jointly launched 'Centre of Excellence on Offshore Wind' under the Green Strategic Partnership.

Green Strategic Partnership:

- India and Denmark launched the Green Strategic Partnership in the year 2020 to deliver the sustainable solutions in India. For this, Ministry of Commerce & Industry signed a Memorandum of Understanding (MoU) for Intellectual Property (IP) Cooperation with Denmark.
- **Green Strategic Partnership** focuses on expanding green growth, economic ties and cooperation on global challenges like climate change.

What is green growth?

- Green growth means fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies.

Green Strategic Partnership:

- Under the partnership, Danish companies with niche technologies and expertise offered to help India to meet its air pollution control targets.
- It also provided mechanism to deal with the Covid-19 pandemic and cooperation in water efficiency & water loss.

Page 9 **8. India-Singapore announces to link UPI and PayNow:**

- India and Singapore have announced the linking of the **Unified Payments Interface (UPI)** and PayNow, in order to enable users to make instant, low-cost fund transfers.
- The project to link the fast payment systems of both the countries was announced by Reserve Bank of India (RBI) and Monetary Authority of Singapore (MAS).
- This linked payment interface is expected to be operationalised by July 2022.
- Linked interface will help in making instant, low-cost fund transfers on a reciprocal basis without onboarding onto the other payment system.
- The linkage will be a significant milestone for the development of infrastructure for cross-border payments between both the countries. It will also align with the G20's financial inclusion priorities to provide for faster, cheaper and more transparent cross-border payments.

About Unified Payments Interface:

- UPI is a mobile-based fast payment system, facilitating the customers to make round the clock payments instantly by using a Virtual Payment Address (VPA). VPA is created by the customer. This system eliminates the risk of sharing bank account details by remitter. This mechanism supports Person-to-Person (P2P) as well as Person-to-Merchant (P2M) payments and enables users to send or receive money.

About PayNow:

- It is the fast payment system of Singapore, enabling peer-to-peer funds transfer service. It is available for retail customers with the help of participating banks & Non-Bank Financial Institutions (NFIs) in Singapore. It provides the users to send and receive instant funds from one bank or e-wallet account to another by using their mobile number, Singapore NRIC/FIN, or VPA.

Unified Payments Interface (UPI):

- Unified Payments Interface is an instant real-time payment system developed by National Payments Corporation of India facilitating inter-bank peer-to-peer and person-to-merchant transactions.
- It powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood. It also caters to the "Peer to Peer" collect request which can be scheduled and paid as per requirement and convenience.
- **UPI** is Developed by the **National Payment Corporation of India (NPCI)** and regulated by the Reserve Bank of India (RBI), India's central bank.
- **National Payments Corporation of India (NPCI)**, an umbrella organisation for operating retail payments and settlement systems in India, is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the **Payment and Settlement Systems Act, 2007**, for creating a robust Payment & Settlement Infrastructure in India.

9. Lunar Crater Named After Matthew Henson:

- Recently, the **International Astronomical Union (IAU)** has recently named a crater on the South Pole of the Moon after Arctic explorer Dr. **Matthew Alexander Henson**. The crater has been named the Hansen crater.
- **Matthew Henson** was a Black man who became one of the first people to stand on top of the world, in 1909.

- The proposal to name the crater after Henson was put forward by Jordan Bretzfelder, a visiting graduate researcher from the Lunar and Planetary Institute's Exploration Science program.

About Matthew Henson:

- **Henson** (1866–1955) was an experienced explorer and skilled carpenter & craftsman.
- He was an experienced explorer and spent 18 years with Peary exploring the Arctic.
- He was hired in 1887 by explorer Robert Peary, and he eventually became a key member of Peary's expeditions, including the one that ultimately reached the North Pole.
- The final push of that expedition was made by Henson, Peary, and four Inuit companions named Ooqueah, Ootah, Eningwah and Seegloo, all traveling by **dog sledge**. A dog sled or dog sleigh is a sled pulled by one or more sled dogs used to travel over ice and through snow.
- Henson was in the lead of the group as they searched for the pole.
- However, Henson did receive accolades at the time for his historic achievement because of the racist attitudes and Peary was honored for the accomplishment instead.



Artemis Programme:

- The Artemis program studies planetary processes and seeks to create the infrastructure to advance human exploration at the moon and, eventually, Mars.
- This programme was launched by the National Aeronautics and Space Administration (NASA).
- Note: Henson Crater is located in the Moon's south pole, between Sverdrup and de Gerlache craters, in the region of the Artemis program.
- The Henson Crater is in the same region where the Artemis program by NASA aims to land the next generation of lunar explorers.

About International Astronomical Union (IAU):

- International Astronomical Union (IAU) is a non-governmental organization set up with the objective of advancing astronomy in all aspects such as promoting astronomical research, outreach, education, and development through global cooperation.
- It was founded in 1919.
- It is headquartered in Paris, France.

10. Suhas Yathiraj: 1st IAS officer to win Paralympics Medal:

- Suhas Lalinakere Yathiraj has become the first IAS officer to win Paralympics medal. He is the current district magistrate of Noida (UP).
- He won a silver medal in the men's singles SL4 class final at the Tokyo Paralympics on September 5.
- Suhas has impairment in one of his ankles.
- He produced an entertaining performance of 21-15, 17-21, 15-21 against the two-time world champion Mazur in a 62-minute summit clash.
- He also became the first-ever IAS officer to win a medal at the Paralympics.

What is Paralympics?

- Paralympic Games or Paralympics is an international multi-sport event for athletes with a range of disabilities. The event usually takes place every two years and almost immediately after the Olympic Games. There are two versions of Paralympic games - Winter and Summer Games.
- All Paralympic Games are managed by the International Paralympic Committee (IPC). Athletes who participate have a range of disabilities including impaired muscle power, hypertonia, ataxia, vision impairment, intellectual impairment, etc.

India at Tokyo Paralympics:

- India made its first appearance at the Paralympics in 1968. In total, India had won 12 medals till 2016 Rio edition. India now improved upon the entire number by 7 medals at the 2020 Tokyo Paralympics alone. India has finished at 24th position out of 162 nations in terms of overall medal tally.

11. India hosts BRICS Summit virtually:

- Recently, the Prime Minister chaired the annual summit of the BRICS which was held virtually. The theme for the Summit was 'BRICS@15: Intra-BRICS cooperation for continuity, consolidation and consensus'.

Key Points:

- Highlighted the achievement of several new initiatives during India's Chairship this year (2021), i.e. an Agreement on cooperation in the field of remote-sensing satellites; a virtual BRICS vaccine Research & Development Centre; BRICS Alliance on Green Tourism, etc.
- Highlighting the leading role that BRICS countries can play in the post-Covid global recovery, Prime Minister called for enhanced BRICS cooperation under the motto of 'Build-back Resiliently, Innovatively, Credibly and Sustainably'.

Adopted BRICS Counter Terrorism Action Plan:

- It defines the approach and actions of the BRICS countries towards areas of Counter Terrorism cooperation which includes: Countering Radicalization and Online Terrorist Threats, Border Management, Information/ Intelligence Sharing, etc.

Delhi Declaration:

- The declaration called for reforms of the principal organs of the United Nations including that of the UN Security Council (UNSC).
- It is the first time that BRICS has taken a collective position on 'Strengthening and Reforming Multilateral Systems'.
- It also called for an "inclusive intra-Afghan dialogue" for stability in Afghanistan.
- Apart from Afghanistan, the BRICS leaders also took up the conflicts in Myanmar, Syria, the tension in the Korean peninsula, Israel-Palestine violence and other territorial disputes.
- Also, it noted the proposal made by India and South Africa at the World Trade Organisation (WTO) for the waiver of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) mechanism to ensure a rapid expansion of the Covid-19 vaccine production around the world.

About BRICS:

- **BRICS** is an acronym for the grouping of the world's leading emerging economies, namely **Brazil, Russia, India, China, and South Africa**.
- In 2001, the British Economist Jim O'Neill coined the term BRIC to describe the four emerging economies of Brazil, Russia, India, and China.
- The grouping was formalised during the first meeting of BRIC Foreign Ministers' in 2006.
- South Africa was invited to join BRIC in December 2010, after which the group adopted the acronym BRICS.
- The BRICS brings together five of the largest developing countries of the world, representing 41% of the global population, 24% of the global GDP and 16% of the global trade.
- The chairmanship of the forum is rotated annually among the members, in accordance with the acronym B-R-I-C-S.
- India is the chair for 2021.
- During the Sixth BRICS Summit in Fortaleza (Brazil) in 2014, the leaders signed the Agreement establishing the New Development Bank (NDB - Shanghai, China). They also signed the BRICS Contingent Reserve Arrangement to provide short-term liquidity support to the members.

12. 4th Conference of the Protectors of Emigrants:

- The fourth Conference of the Protectors of Emigrants was held on September 10, 2021. This day coincides with the date of enactment of **Emigration Act, 1983**.
- On the occasion, MOS for External Affairs, Shri V. Muraleedharan address and observe that India has worked together to deal with the challenges of covid-19 pandemic.
- He noted that, this is the right time to prepare for the opportunities in the world which is cautiously returning to normalcy.
- According to him, Protectors of Emigrants (POEs) should facilitate emigration of blue collared workers and provide them best possible protection and welfare.
- POEs plays an important role in informing youth and workers regarding the new destinations and opportunities. It raises awareness on the basis of:
 1. MOU signed between India & UK on mobility and partnership;
 2. MOC between India & Japan on specified skilled workers in 14 sectors; and
 3. Approval on skilled manpower mobility between India & Portugal.

How POEs can be protected?

- POEs can be protected by updating and refine various welfare schemes like Pravasi Bharatiya Bima Yojana (PBBY), Indian Community Welfare Fund (ICWF), Pre-Departure Orientation Training (PDoT) and eMigrate platform.

eMigrate system:

- It is an online platform that integrates POE offices, Indian Missions, Passport offices, Bureau of Immigration & others and regulates overseas employment. This platform is being strengthened by several measures in order to increase its popularity and make it simple & incentivised.
- This platform has now been opened up to all countries to recognise new migration corridors to East Asia, Europe and other countries.

13. India-Japan Sixth Maritime Affairs Dialogue:

- Recently, India and Japan held their sixth Maritime Affairs Dialogue in a virtual format.
- The dialogue involved exchanges on developments in the areas of regional cooperation activities, maritime security environment as well as the opportunities for cooperation between both the countries in the Indo-Pacific region.

Background:

- First round of India-Japan Maritime dialogue was held in 2013 in New Delhi in 2013.

- During first round of dialogue, both the countries signed Acquisition and Cross Serving Agreement. This agreement allows access to military bases of each other.
- Through this agreement, India has access Japan base in Djibouti and Japanese Navy have access Indian Naval base in Andaman and Nicobar Islands.

India-Japan Maritime Exercise:

- India and Japan also held bilateral Maritime Exercise called JIMEX, that stands for Japan-India Maritime Exercise. It is held annually.

India-Japan Maritime Cooperation:

- Both the countries are having convergent interests in maritime security. They depend on sea-borne trade in order to sustain their economies. Thus, it becomes essential to work together for the security of trade in light of the South-China Sea. Countries have affirmed that a peaceful means of unilateral action is required to do way with the dispute in the region.

India-Japan Relations:

- India and Japan had upgraded their relationship to '**Special Strategic and Global Partnership**' in 2014. **Mumbai-Ahmedabad** High Speed Railway (MAHSR) is an important area of cooperation in Railway sector between both the countries. In 2018, India-Japan Digital Partnership was launched to deepen the existing areas of cooperation and initiatives within the scope of cooperation in science & technology.
- India and Japan are the member nations of **G-4 grouping**. They regularly conduct naval exercises, mil-to-mil exercises, coast guard exercises and air force exercises. Both the countries are facing difficulties in the maritime area because of China's dominance. They seek to make the Indo-pacific a multipolar, free, open and inclusive region.

14. US-India Strategic Clean Energy Partnership (SCEP):

- Recently, the revamped US-India Strategic Clean Energy Partnership SCEP was launched during the ministerial meeting of the Petroleum and Natural Gas Ministry with the US Ministry of Energy.
- The SCEP was launched in accordance with the US-India Climate and Clean Energy Agenda 2030 Partnership announced by both countries at the Leaders' Summit on Climate held earlier this year (2021).
- The SCEP organizes inter-governmental engagement across five pillars of cooperation: (1) Power and Energy Efficiency; (2); Responsible Oil and Gas; (3) Renewable Energy; (4) Sustainable Growth and (5) Emerging Fuels.
- US-India Agenda 2030 Partnership:
- It aims to create stronger bilateral cooperation on actions in the current decade to meet the goals of the Paris Agreement.
- It will proceed along two main tracks: the Strategic Clean Energy Partnership and the Climate Action and Finance Mobilization Dialogue.
- India elevated the India-US energy dialogue to a strategic energy partnership in 2018.

Revamped Strategic Clean Energy Partnership (SCEP):

- Addition of a fifth Pillar on Emerging Fuels (cleaner energy fuels).
- With this, the SCEP inter-governmental engagement now spreads across five pillars of cooperation - Power and Energy Efficiency, Responsible Oil and Gas, Renewable Energy, Sustainable Growth and Emerging Fuels.
- Support India in achieving its goal of installing 450GW of renewable energy capacity by 2030.
- A new India-U.S. Task Force on Biofuels was also announced.

Transformation of the Gas Task Force:

- It will be the India-US Low Emissions Gas Task Force.

- It will focus on addressing India's natural gas policy, technology, and regulatory barriers by promoting efficient and market-driven solutions aimed at meeting India's growing energy demand, and greenhouse gas emission reduction targets.

Expanded the Scope of (PACE)-R Initiative:

- Both the parties agreed to include smart grid and grid storage as part of the second phase of the Partnership to Advance Clean Energy (PACE)-R initiative anchored on the Indian side by the Department of Science & Technology.

15. Japan-Vietnam deal for Defence Equipment:

- **Japan** and **Vietnam** have recently signed a new deal, which enables the export of Japanese-made defence equipment and technology to Vietnam.
- Both the countries have inked the deal to boost the defence cooperation in the backdrop of China's growing military influence.
- This deal will elevate the defence partnership among the countries to a new level.
- Countries have also planned to deepen defence ties through multinational joint exercises as well.
- Details regarding the transfer of specific equipment, including naval vessels, will be worked out at subsequent stages.
- To counter the China's increasingly assertive actions in disputed waters of South China Sea, Japan and Vietnam have also agreed on the importance of maintaining freedom of navigation & overflight in Indo-Pacific region and cooperation in several defence areas including cybersecurity.
- Vietnam is the 11th country with which Japan signed the defence equipment and technology transfer deal.

China's Reaction:

- China answered to the deal by announcing its plan to donate three million doses of coronavirus vaccine to Vietnam. China is of the view that both the countries should also refrain from any unilateral actions regarding the South China Sea.
- Vietnam is having territorial disputes with China over the Spratly and Paracel island groups in South China Sea.
- Japan and China are also having territorial dispute. Japan regularly protests against Chinese coastguard's presence in East China Sea near Senkaku Island, which is controlled by Japan & also claimed by China as Diaoyu Island.

16. Iran to allow nuclear surveillance by IAEA:

- Recently, Iran agreed to allow nuclear surveillance by the **International Atomic Energy Agency (IAEA)**.
- Iran has allowed the international inspectors to install new memory cards into surveillance cameras across its sensitive nuclear sites and to continue filming there.
- This announcement was made by Mohammad Eslami of the Atomic Energy Organization of Iran.
- Currently, Tehran holds all recordings at its sites in the backdrop of negotiations over the U.S. and Iran returning to the 2015 nuclear deal got stalled in Vienna.
- Iran is now enriching small amounts of uranium to its closest levels to weapons-grade purity because its stockpile continues to increase.
- Iran and IAEA had agreed over temporary measures to offset decision of Iran to restrict access to inspectors. Iran's Parliament passed a law in 2020 and demanded the suspension of some inspections in case USA failed to lift sanctions. Under the deal, Iran will stop the implementation

of voluntary measures in accordance with 2015 nuclear deal. However, it will continue to implement its Comprehensive Safeguards Agreement with the IAEA.

- Under this agreement, IAEA has the right & obligation to ensure that safeguards are applied on all nuclear material in the territory or jurisdiction or control of the State. Under it, no access will be given to IAEA beyond safeguards of the Non-Proliferation Treaty. Iran would also deny the IAEA real-time access to footage from surveillance cameras.

About the Iran Nuclear Deal:

- The Iran Nuclear Deal is also known as the **Joint Comprehensive Plan of Action (JCPOA)**.
- The JCPOA was the result of prolonged negotiations from 2013 and 2015 between Iran and **P5+1** (China, France, Germany, Russia, the United Kingdom, the United States, and the European Union, or the EU).
- Under the deal, Tehran agreed to significantly cut its stores of centrifuges, enriched uranium and heavy-water, all key components for nuclear weapons.
- The last round of talks by the remaining parties to the 2015 Iran nuclear accord ended in June and no date has been set for their resumption.

What is International Atomic Energy Agency?

- The International Atomic Energy Agency (IAEA) is an international organization that seeks to promote the peaceful use of nuclear energy and to inhibit its use for any military purpose, including nuclear weapons.
- As the preeminent nuclear watchdog under the UN, the IAEA is entrusted with the task of upholding the principles of the **Nuclear Non-Proliferation Treaty** of 1970.
- It was established as an autonomous organization on July 29, 1957, at the height of the Cold War between the U.S. and the Soviet Union.
- Though established independently of the UN through its own international treaty, the agency reports to both the UN General Assembly and the UNSC.

17. 6th Edition of Exercise SCO Peaceful Mission 2021:

- Recently, the 6th Edition of SCO Exercise Peaceful Mission: 2021 has been concluded. It was hosted by Russia and started at Orenburg Region of South West Russia today.
- The aim of the exercise is to foster close relations between SCO Member States and to enhance abilities of the military leaders to command multinational military contingents.
- An Indian military contingent comprising of an all arms combined force of 200 personnel from Indian Army and Indian Air force is participating in the exercise.

SCO Peaceful Mission 2021:

- SCO Peaceful Mission is a Multilateral & Joint Counter Terrorism Exercise.
- The exercise is conducted biennially under the “military diplomacy” between the Shanghai Cooperation Organisation (SCO) member states.

18. Mexico Supreme Court-Decriminalises Abortion:

- Recently, Mexico’s Supreme Court unanimously ruled that penalising abortion is unconstitutional.
- It has been seen as a major victory for advocates of women’s health and human rights, just as parts of the United States enact tougher laws against the practice.
- This ruling was meant for northern state of Coahuila. It now prevents women from being prosecuted for abortion.
- Currently, abortion is severely restricted in four of the states in Mexico. It is also legal in cases of rape or where mother’s life is in danger.
- Thus, this decision could pave way to decriminalise abortion across Mexico.

- Under Mexican law, this ruling will now apply to all the other states in the country.
- With this ruling, women who were jailed for having abortions will now be released, with immediate effect.
- Information Group on Reproductive Choice (GIRE) was campaigning for abortion rights in the country. High profile protests by feminist and women's rights campaigners have highlighted the need for greater reproductive rights.

Abortion in Mexico:

- Before this ruling, the state of Coahuila used to punish women, who have illegal abortions, with jail terms of up to three years.
- Abortion was a legal demand in country. Its legal status varied with respective state. However, Mexican Supreme court ruled on September 7, 2021 that penalizing abortion is unconstitutional and ordered to decriminalize it across the entire country. Procedure of abortion is available on request to any woman up to twelve weeks into a pregnancy in Mexico City as well as in states of Oaxaca, Veracruz and Hidalgo.

Status of Abortion in India:

- In India, one can get an abortion under the Medical Termination of Pregnancy (Amendment) Act 2021.
- The Medical Termination of Pregnancy Act, 1971 ("MTP Act") was passed due to the progress made in the field of medical science with respect to safer abortions.
- In a historic move to provide universal access reproductive health services, India amended the MTP Act 1971 to further empower women by providing comprehensive abortion care to all.
- The new Medical Termination of Pregnancy (Amendment) Act 2021 expands the access to safe and legal abortion services on therapeutic, eugenic, humanitarian and social grounds to ensure universal access to comprehensive care.

19. New security partnership for Indo-Pacific or AUKUS:

- Recently, the US has announced a new trilateral security partnership for the Indo-Pacific, between Australia, the UK and the US (AUKUS).
- This security partnership AUKUS will focus on advancing strategic interests in the Indo-Pacific region.
- Though the US has explicitly denied that the grouping is targeted against China, its Indo-pacific orientation makes it an alliance against China's assertive actions in the South China Sea.
- The **three countries** alongside Canada and New Zealand already share extensive intelligence through the **Five Eyes alliance**.
- As part of this initiative, Australia will acquire nuclear-powered submarines with help from the UK and the US.
- This step is significant because the US has only shared nuclear submarine technology once before, and it started in 1958 with Great Britain.
- Nuclear submarines that are quieter than their conventional counterparts but also more capable of being deployed for longer periods and needing to surface less frequently.
- Alongside India's stated intent to acquire more nuclear-powered submarines, it will amount to a step-change increase in the Quad's undersea and anti-submarine warfare capabilities.
- **Quad** is a grouping of India, USA, Australia and Japan.
- Australia is now set to join an **elite group of only six countries**-India, the US, the UK, France, Russia and China - that operate nuclear-powered submarines. It will also be the only country to have such submarines without having a civilian nuclear power industry.

- **AUKUS** will also involve a new architecture of meetings and engagements between the three countries, as well as cooperation across emerging technologies (applied AI, quantum technologies and undersea capabilities).

The Five Eyes (FVEY) Alliance:

- The Five Eyes is an intelligence alliance comprising Australia, Canada, New Zealand, the United Kingdom, and the United States. These countries are parties to the multilateral UKUSA Agreement, a treaty for joint cooperation in signals intelligence.

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20. China applied to join Asia-Pacific Free Trade:

- Recently, China has applied to join a key Asia-Pacific trade pact as it attempts to strengthen its position in the region.
- The move comes the day after a historic security deal between the US, UK and Australia was unveiled. The pact that eventually became the **Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)**, was created by the US to counter China's influence.
- **CPTPP** was originally the Trans-Pacific Partnership. It was a group promoted by former President Barack Obama as part of USA's increasing emphasis on its relations with Asia.
- China was not included in the initial group.
- Donald Trump had pulled out the group in 2017 and the current President of US Joe Biden has not yet re-joined the group.
- **CPTPP** is a trade agreement among 11 countries namely, Australia, Brunei, Chile, Canada, Japan, Mexico, Malaysia, Peru, New Zealand, Singapore, and Vietnam. This grouping was evolved from Trans-Pacific Partnership (TPP). TPP had been signed on 4 February 2016, that never entered into force because of withdrawal of the United States. Eleven signatories of the grouping have a combined economies that represents 13.4 percent of global gross domestic product.
- China's government has promised to increase imports of goods but faces complaints it is failing to carry out promises made when it joined the World Trade Organisation in 2001 to open finance and other service industries.
- China is also a member of various other trading arrangements, including the Regional Comprehensive Economic Partnership, which includes many nations in Asia that are not part of the CPTPP.

21. India-UAE negotiations for Comprehensive Economic Partnership Agreement:

- India and United Arab Emirates (UAE) have launched the negotiations for a mutually beneficial comprehensive economic partnership agreement on September 22, 2021.
- Both the countries aim to conclude the negotiations by December 2021.
- Once the negotiations are concluded, they will sign a formal agreement in March 2022 after completing the internal legal procedures and ratification.
- India and the UAE are each other's largest trading partners. CEPA will help in enhancing the bilateral trade and investment flows. This agreement will also assist in post-Covid economic recovery and future economic growth of both the countries. It will create new job opportunities, boost living standards, and improve general welfare of the people of both the countries.
- The UAE is **India's third-largest trading partner**, having a bilateral trade of \$59 billion in Financial Year 2020. UAE is also the second-largest export destination of India, after the US. Its exports are valued at around \$29 billion in FY20. India is also the second-largest trading partner of UAE, as of 2019 with bilateral non-oil trade is valued at \$41 billion. UAE is also the eighth-largest investor in India, that invested \$11 billion in between April 2000 to March 2021. Investment by Indian companies in the UAE is valued at around \$85 billion.

- Major exports to the UAE comprise of stones, petroleum products, precious metals, gems and jewellery, minerals, food items like sugar, cereals, fruits & vegetables, meat, tea, meat & seafood, textiles, chemicals and engineering & machinery products. India imports crude petroleum and petroleum products, precious metals, minerals, stones, gems & jewellery, chemicals & wood and wood products from UAE.

22. UN: 16 million Yemenis towards Starvation:

- According to the head of U.N. food agency, David Beasley, 16 million people in Yemen “are marching towards starvation”.
- During a meeting on Yemen’s humanitarian crisis, He said that the United States, Germany, United Arab Emirates and Saudi Arabia donors stepped up when the World Food Program (WFP) was running out of money in first half of 2021. This funding helped in averting famine and catastrophe.
- World Food Program is running out of money again. He notes that, without any new funding, ration reductions will be done for 3.2 million people in October 2021 and for 5 million by December 2021.
- A meeting on Yemen’s humanitarian crisis was held on September 22, 2021 on the line of U.N. General Assembly’s annual leaders’ gathering. It raised about \$600 million. Meeting was hosted by European Union and co-hosted by Sweden & Switzerland.
- Yemen has been undergoing a civil war since 2014, when Iran-backed Houthi rebels took control of the capital of Yemen called Sanaa as most of the northern part of Yemen. They also forced the President of Yemen, Abed Rabbo Mansour Hadi, to flee to Saudi Arabia. Later, a Saudi Arabia-led coalition entered the war in March 2015, backed by the United States. They tried to restore President Hadi to power. Despite several air campaign and ground fighting, war has deteriorated into a stalemate and caused a humanitarian crisis. The U.S. has suspended its direct involvement in this conflict.

23. CAF World Giving Index 2021:

- Charities Aid Foundation (CAF) World Giving Index 2021 was published recently, in which India found the place among top-20 generous countries.
- Key findings of the report
- India has been ranked at the 14th spot. Its rank has improved up from the 10-year global rank of 82.
- CAF report notes that, India is one of the fastest climbers on the Index.
- According to the report, 61% Indians have helped a stranger during the Covid-19 pandemic in 2020.
- 36% of Indians donated money.
- 34% Indians volunteered for social causes in India.

Scenario across the world:

- According to CAF survey, communities across the world have mobilised to help fellow citizens during covid-19 pandemic. It resulted in the highest ‘helped a stranger’ figures since 2009.
- 55% of the world’s adults (that is 3 billion people) were reported helping someone they didn’t know in 2020.
- 31% people donated money in 2020 as compared to donations in last five years.
- Levels of volunteering in 2020 are broadly unchanged globally.
- Developed countries such as the USA, the UK, Canada, Ireland, and the Netherlands were out of the highest ranking.
- Australia and New Zealand maintained their top-10 ranking.

- Poor countries like Kenya, Nigeria, and Ghana found place among top-10 generous countries in CAF 2021 index.

Most generous country:

- The most generous country across the world is Indonesia. Indonesia has been ranked at first position in the CAF Index this year. Indonesia is followed by Kenya, Nigeria, Myanmar, Australia, Ghana, New Zealand, Uganda, Kosovo and Thailand in that order. In the year 2019, US was ranked at top position.

24. DFC- USAID announce \$55 mn guarantee programme in India:

- The US International Development Finance Corporation (DFC) and the United States Agency for International Development (USAID) have jointly decided to sponsor a \$55 million credit guarantee programme in India.
- This announcement was made on September 24, 2021
- This credit guarantee programme seeks to address the economic impact of covid-19. It will support the loans to farmer producer organizations, ag-tech companies, and companies that are engaged in clean energy solutions for agriculture sector.
- This initiative will also introduce and support clean technologies for small-holder farmers, with special emphasis on women. This in turn will improve market linkages and increase incomes. It is also having a positive impact on the environment.
- This Financial support will be complemented by the technical assistance led by the Rabo Foundation. Technical assistance will focus on areas of business management and help in building stronger linkages for markets.
- Loans to farmer producer organizations will be provided by three lenders of India namely- Samunnati Financial, Avanti Finance and Maanaveeya.

Objective:

- This initiative was launched because, USAID believe that providing farmers with access to cleaner and affordable technology will improve livelihood and climate resilience of the community.
- Clean technologies also offer a sustainable alternative in order to meet the agricultural demand, to address food insecurity as well as to improve nutritional outcomes. This support initiative will address the health and economic needs of vulnerable farmer communities.

25. Indo-US Health Dialogue 2021:

- 4th session of the **Indo-US Health Dialogue 2021** was inaugurated on September 27, 2021. This session is being hosted by India.
- During the session, Union Minister of State for Health and Family Welfare articulated mutual solidarity and relentless support between India and the United States (US) during Covid-19 pandemic.
- Indo-US Health dialogue is a two-day Dialogue platform that deliberate upon multiple ongoing collaborations between both the countries in the health sector.
- It will conclude on September 28.

Agenda of the session:

- For the 4th session, issues that have been planned for deliberations also encompass areas of concern related to
 1. Strengthening of epidemiological research and surveillance,
 2. Vaccine development,
 3. One Health,
 4. Zoonotic and vector-borne diseases,

5. Health systems and health policies.

India-US Collaboration in Health:

- In the session, union minister also commended the way in which India and the US have enhanced their collaboration in the fields of research & development, with respect to pharmaceuticals, therapeutics, and vaccine development.
- She recognised a MoU signed in 2020 on mental health and acknowledged the enhanced cooperation and bilateral ties in the health sector.
- According to her, there is a need to focus on these emerging areas in order to prevent and control infectious diseases by relying on well-designed and validated scientific approaches.

MoU between India and US:

- In the meeting, another MoU between the Union Ministry of Health & Family Welfare and the Department of Health & Human Services of the US, in the health sector, was finalised.
- Under the MoU, major areas of cooperation include Health Safety & Security; Communicable Diseases & Non-Communicable Diseases; Health Policy and Health Systems.

26. QUAD Leaders' Summit 2021:

- Recently, the first in-person meeting of the Quadrilateral Security Dialogue (Quad) of India, Australia, the United States and Japan, was held in Washington (on September 24, 2021).
- The meeting was participated by India's Prime along with leaders of the US, Japan, and Australia. US President Joe Biden is hosting all of them at the White House.
- During the meeting, leaders also agreed to keep a careful eye on Pakistan, as its historic rival has been an instigator of trouble in Afghanistan. PM Modi shared concerns regarding extremist elements in Afghanistan.

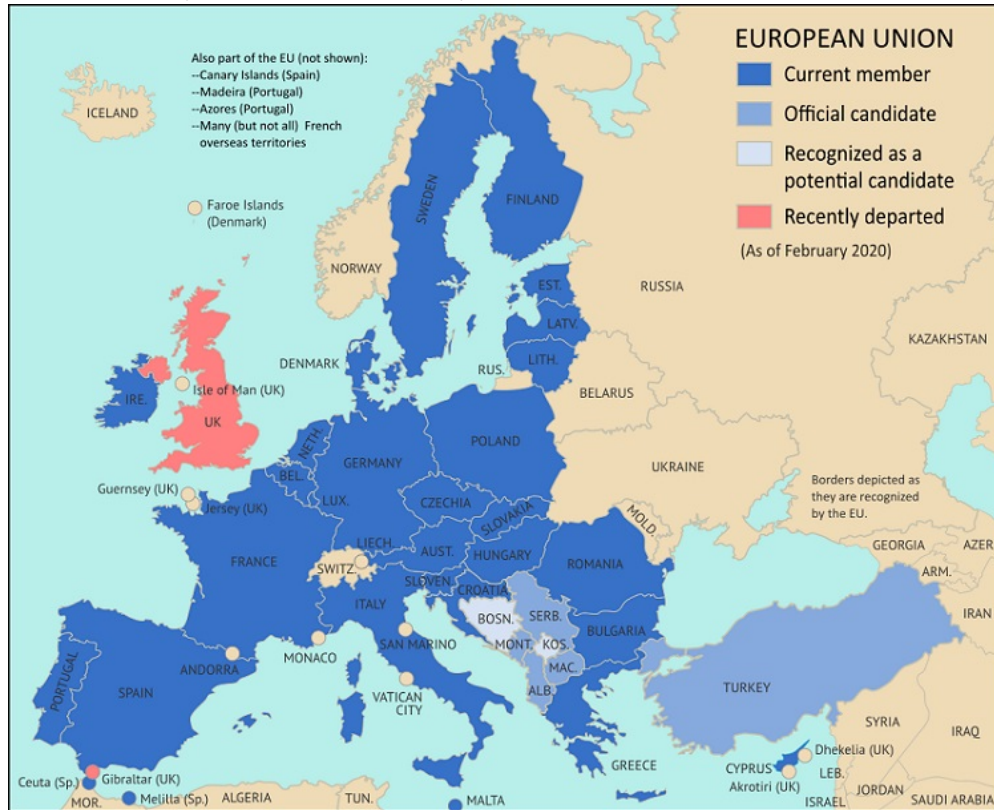
India's Proposal:

- During the meeting, PM Modi noted that, four nations of the Quadrilateral Security Dialogue came together in the interest of humanity amid the COVID-19 pandemic.
- He added that "Quad vaccine initiative" will help Indo-Pacific nations.
- At the summit, he proposed a common international travelling protocol which involves mutual recognition of COVID-19 vaccination certificate, which was well received by other leaders.
- India proposed to allow Quad to export of 8 million Indo-Pacific vaccine doses by October 2021 in line with a deal between grouping of Australia, India, Japan and the United States in March 2021.
- Australian Prime Minister Scott Morrison noted that, Indo-Pacific should be free from coercion in line with the international law and sovereign rights.
- Quadrilateral Security Dialogue (QUAD) is a strategic dialogue between India, United States, Japan and Australia. This dialogue was initiated in 2007 by Prime Minister of Japan Shinzo Abe. It was paralleled by joint military exercise called 'Exercise Malabar'.

27. Piyush Goyal appointed as India's Sherpa for G20:

- Recently, the commerce and Industry Minister, Piyush Goyal, has been appointed as India's **Sherpa for G20**.
- The G20 is an **informal group** of 19 countries and the European Union, with representatives of the International Monetary Fund and the World Bank.
- The **G20 membership comprises** a mix of the world's largest advanced and emerging economies, representing about two-thirds of the world's population, 85% of global gross domestic product, 80% of global investment and over 75% of global trade.

- The members of the G20 are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the **European Union**.
- It does not have any permanent secretariat or headquarters
- **Next G20 Summit** is scheduled to take place from October 30 to 31, 2021 under Italian Presidency.
- **India will hold the G20 Presidency from December 1, 2022** and will also convene G20 Leaders' Summit in 2023 for the **first time**.
- India will also be part of the **G20 Troika** (preceding, current, and incoming G20 Presidencies) from December 1, 2021 to November 30, 2024.



28. PM addresses plenary session of the Eastern Economic Forum (EEF):

- Recently, the Prime Minister delivered a video-address during the plenary session of the **6th Eastern Economic Forum (EEF)** (held on 3 September 2021 in Vladivostok).
- It may be recalled that PM was the Chief Guest for the 5th EEF in 2019, the first by an Indian Prime Minister.
- During the session, Prime Minister noted that, India-Russia energy partnership can bring stability in the global energy market. At the same time, International North-South Transport Corridor will bring both the countries closer.
- **Eastern Economic Forum** is an international meet, held annually in Vladivostok in order to encourage foreign investments in the resource-rich but underdeveloped Far East region of Russia. Russia has actively engaged India to invest in this region, following which India had announced a \$1-billion line of credit for the Far East during EEF 2019.

29. Sri Lankan Economic Crisis-Things to know:

- Recently, Sri Lankan President, has declared an economic emergency to contain rising food prices, a depreciating currency, and rapidly depleting forex reserves. The emergency was declared under the Public Security Ordinance on the supply of essential goods.

Factors Responsible for Sri Lankan Economic Crisis:

1. **Underperforming Tourism Industry:** The tourism industry, which represents over 10% of the country's Gross Domestic Product and brings in foreign exchange, has been hit hard by the coronavirus pandemic. As a result, forex reserves have dropped from over \$7.5 billion in 2019 to around \$2.8 billion in July 2021.
2. **Depreciating Currency:** With the supply of foreign exchange drying up, the amount of money that Sri Lankans have had to shell out to purchase the foreign exchange necessary to import goods has risen. Thus, the value of the Sri Lankan rupee has depreciated by around 8% so far this year.
3. **Rising Inflation:** Sri Lanka depends heavily on imports to meet even its basic food supplies, such as sugar, dairy products, wheat, medical supplies. Due to this, the price of food items has risen in tandem with the depreciating rupee.
4. **Diminishing Inflow of Foreign Currency:** The pandemic has affected all major sources of foreign exchange earnings like exports, worker remittances, etc.
5. **Food Shortage:** Sri Lankan Government's recent decision to ban import of chemical fertilizers and adopt an "organic only" approach. This overnight shift to organic fertilizers could impact food production severely.

How government is responding to the crisis?

- Sri Lankan government blamed speculators for resulting into rise in food prices by hoarding essential supplies. Government declared "economic emergency" under the Public Security Ordinance.
- Under the emergency situation, army has been tasked to seize the food supplies from traders and supply them to consumers at fair prices. Government has also given power to the army to ensure that forex reserves are used to purchase the essential goods only.

Impacts of government's decision:

- Sri Lankan President seeks to make Sri Lankan agriculture fully organic which will significantly decrease the domestic food production and cause a further rise in prices. Capping of food prices could also lead to severe shortages because demand exceeds the supply at prices fixed by the government. When supplies will be seized from traders, it will lead to further drop in supplies and higher prices for essential goods.

30. Colexion: Non Fungible Tokens (NFTs) Platform:

- **Colexion** is a Non Fungible Tokens (NFTs) platform for sports, entertainment, and art. NFT clarifies that the digital ecosystem of sports, entertainment, and art may be the most important thing in the next few years.
- Collectors and investors worldwide have a wide variety of souvenirs that have been highly valued for decades. This includes everything from ticket stubs to magazines and signatures.
- **Non Fungible Tokens (NFTs)** are digital assets that represent objects like art, collectible, and in-game items. They are traded online, often with cryptocurrency, and are generally encoded within smart contracts on a blockchain.
- Collectors and investors worldwide own collections of varied set of memorabilia (token of remembrance) which have been appreciated much over decades. This platform will soon enable the users to buy, sell and trade NFTs of their favourite superstars. It has also started a user pre-registration program.

Purpose of Colexion:

- Colexion provides users with trade, purchase, and interactive activities. It will feature NFT collections of global stars. Through this platform, users would be able to buy different tiers of blind boxes and own celebrity's limited NFT collections. Each NFT collectible comprise of a unique record on the **blockchain**.
- Users will obtain ownership of this unique NFT collectible by purchasing it on the platform or trading on the Colexion marketplace. Colexion will accept general payment methods like credit cards in order to make it easy for mainstream consumers to participate.

31. World Bank Group to stop publishing 'Doing Business' report:

- Recently, the World Bank Group announced that it has decided to discontinue publication of its 'Doing Business' rankings of country business climates after a review of data irregularities in the 2018 and 2020 reports.
- This decision was taken in the backdrop of probe of data irregularities allegedly because the pressure by top bank officials, for boosting China's ranking in 2017, came to light.
- World Bank noted that, it will remain firmly committed towards advancing the role of private sector in development and providing support to governments in order to design the regulatory environment that supports this.
- World Bank will now be working on a new approach of assessing the business and investment climate.

Trust in research:

- According to World Bank, trust in the research is vital. World Bank Group research informs about the actions of policymakers and helps countries in making better-informed decisions. It also allows stakeholders in measuring economic and social improvements accurately. Research has also been a valuable tool for private sector, academia, civil society, journalists etc in broadening their understanding of global issues.

What is the issue?

- Data irregularities were reported on Doing Business 2018 and 2020 internally in June 2020. Following this, World Bank management stopped the next edition of Doing Business report and initiated a series of reviews & audits of the report along with its methodology.

Doing Business 2020 report:

- According to Doing Business 2020 report, India had jumped 14 places in the ease of doing business ranking, to the 63rd position. It has improved the rank by 79 positions over five years that is, in between 2014 to 2019.

32. Patents (Amendment) Rules, 2021:

- The Patents (Amendment) Rules, 2021 came into effect on September 21, 2021 by amending the Patents Rules 2003.
- By amending the rules, the Union Government has reduced the patent filing and processing fees that are charged on educational institutions by 80%.
- This reduction in fees is at par with similar concession available to start-ups under the Start-up India initiative.

Why patent fees have been reduced?

- While applying for patents, innovators have to apply these patents in the name of institutions which have to pay very high fees for large applicants and thus work as a disincentive.
- Thus, to encourage greater participation of the educational institutions, playing a significant role in India's innovation, official fees have been reduced.

- According to DPIIT, educational institutions engage in various research activities, where professors or teachers as well as students generate several new technologies that are required to be patented in order to facilitate commercialization of the same.
- But high patenting fees restricts these technologies to get patented and thus work as a disincentive for development of new technologies.
- To do away this problem, Patents rules have been amended several time in order to achieve the objective of removing procedural inconsistencies and unnecessary steps to process the applications.

Start-ups Intellectual Property Protection (SIPP) Scheme:

- Department for Promotion of Industry and Internal Trade (DPIIT) launched the scheme, Facilitating Start-ups Intellectual Property Protection (SIPP) in order to provide facilitators with filing and processing of their applications. Professional charges of such facilitators are reimbursed in accordance with the provisions of the scheme.

What is a patent?

- A patent is an exclusive right granted for an invention, which is a product or a process that provides a new way of doing something, or offers a new technical solution to a problem.
- To get a patent, technical information about the invention must be disclosed to the public in a patent application.
- It is similar to granting of a property right by a sovereign authority to an inventor. This grant provides the inventor exclusive rights to the patented process, design, or invention for a designated period in exchange for a comprehensive disclosure of the invention. They are a form of incorporeal right.

33. KVIC sets up Odisha's first silk yarn Production Centre:

- Khadi and Village Industries Commission (KVIC) has started a historic initiative to set up first ever Tussar Silk Yarn Production Centre at Choudwar in Cuttack district in Odisha.
- The silk yarn production centre was inaugurated on September 24, 2021 by Chairman of KVIC, Vinai Kumar Saxena.
- This centre will ensure local availability of Tussar Silk yarn, reduce the silk production cost as well as create local employment.
- Tussar silk is one of the finest varieties of Silk. It is distinguished by its coarseness and porous weave, giving it a rugged and rustic appearance.
- This centre was set up at a cost of Rs 75 lakh.
- It is capable of producing 200 KG of silk yarn of worth Rs 94 lakh annually.

Silk production in Odisha:

- Odisha has been known for exquisite Silk production, particularly the Tussar variety. This industry provides livelihood to thousands of tribal people, particularly women in the state. But the Silk weavers were totally dependent on states such as West Bengal, Karnataka and Jharkhand for the Silk yarn. This in turn, increased the cost of the Silk fabric here.

Silk production in India:

- India is the second largest producer of silk in the world.
- In India, sericulture is mostly a village-based industry providing employment opportunities to a large section of the population.
- In India, Mulberry silk is produced mainly in Karnataka, West Bengal, Jammu & Kashmir, Tamil Nadu and Andhra Pradesh although some other States have made some progress in this direction under their development plans.

- Vanya (Non-mulberry) silk comprising Tasar, Eri and Muga are produced in Jharkhand, Chattishgarh, Madhya Pradesh, Orissa, Bihar, West Bengal, Assam, Meghalaya, Manipur and Nagaland.
 - The different types of Vanya silk and spun silk and noil yarn are further defined as follows:
1. **Tasar Silk:** Tasar silk is generated by the silkworm, *Antheraea mylitta*, which mainly thrives on the food plants such as Asan and Arjun. The rearings are conducted in natural conditions on the trees. Tasar silk is mainly produced in India in the states of Jharkhand, Chattisgarh, Orissa, Maharashtra, West Bengal and Andhra Pradesh. Tasar culture is the main stay for many tribal communities in India.
 2. **Eri Silk:** Eri silk is the product of the domesticated silkworm, *Philosamia ricini* that feeds mainly on castor leaves. Eri yarn is produced in Assam, Bihar, Manipur, Meghalaya, Nagaland and West Bengal. Unlike other kind of silk, this cannot be reeled and hence it is only spun. It has natural copperish colour.
 3. **Muga Silk:** It is silk produced only in Assam from cocoons of silkworms belonging to saturniidae family, which are fed on Som and Soalu leaves. It has a rich golden colour.
 4. **Spun Silk Yarn -** Yarn composed of silk filaments of lengths ranging from 1 to 8 inches produced by bleaching, dressing and spinning the silk waste which is the byproduct of the raw silk reeling industry.
 5. **Noil Yarn:** It is short-staple residue obtained during dressing operations in silk spinning from silk waste. It is a by-product of spun silk industry. This can be spun into Noil yarn of coarse counts.

34. International start-up hubs ranking 2021:

- International start-up hubs ranking 2021 was recently compiled and published by Start-up Genome for its annual **Global Start-up Ecosystem Report 2021**.

Key Points:

- As per the comprehensive ranking of international start-ups, London, Mumbai and Bangalore have been featured among the world's top start-up hubs.
- London maintained the second-place ranking along with the New York for second consecutive year, despite Brexit and the coronavirus pandemic.
- Bangalore has also been ranked at 23rd position, maintaining the position among top 30 global tech hubs. Delhi was ranked at 36th.
- Mumbai has been ranked at first position in the Emerging Ecosystems ranking, outperforming the fast-growing ecosystems in areas of performance, funding, talent and market research.
- Karnataka is also the 4th largest technology and innovation cluster in the world and is home to more than 400+ global R & D centres.

About the Report:

- This report ranks the leading 140 start-up ecosystems on the basis of seven success factors like Talent, Performance and Connectedness.
- As per the report, London is the most attractive destination to set up a tech start-up outside the Silicon Valley. Its overall ecosystem is valued at USD 142.7bn. London is also among one of the best cities for access to funding, quality and activity in the investment ecosystem, globally.

Where does Indian Start-ups stand?

- According to the report, Indian start-ups have raised USD 12.1 billion in the first half of year 2021. It demonstrates the rapid growth of India as the global hub for tech & innovation. India has produced 24 unicorns in 2021, as of August 2021.

Startup India Portal:

- Startup India Portal is an online platform for startups and entrepreneurs. It houses one of the largest networks in the Indian Startup Ecosystem, connecting tens of thousands of key

stakeholders such as startups, investors, incubators) on a single platform and allowing them to discover and collaborate with each other.

- Startup India is a flagship initiative of the Government of India, intended to catalyse startup culture and build a strong and inclusive ecosystem for innovation and entrepreneurship in India.
- It was launched on 16th January, 2016.

35. RBI permits transfer of fraud loans to ARCs:

- The Reserve Bank of India (RBI) allowed, on September 23, 2021, lenders to sell loans that are tagged as fraud to the asset reconstruction companies (ARCs).
- This permission by RBI potentially paves the way for focussed recovery efforts on loans worth trillions of rupees.
- As per RBI's annual report, banks have reported frauds of about Rs 95 trillion in between Financial Year 2019 and Financial Year 2021.
- With RBI's permission, now banks can sell stressed loans in default for more than 60 days or those classified as bad loan including the fraudulent loans. However, this permission is subject to some conditions. However, transfer of these exposures to an ARC does not absolve the lender from fixing staff accountability which is required under the extant instructions on frauds.
- Currently, lenders are not permitted to transfer fraudulent loans to asset turnaround companies. But the recent change in norms will allow ARCs to buy more assets as well as the National Asset Reconstruction Company Ltd (NARCL) to partake in more asset resolutions. It will thus lead to a faster clean-up.

Significance of the new norm:

- The new norm has open significant opportunities for banks as well as asset reconstruction companies as it would allow them to probably buy these assets at a greater discount rather than regular bad loans.

How lenders sell stressed loans?

- Lenders sell stressed loans to ARCs at a discount, in exchange for cash or a mix of cash & security receipts. These receipts are redeemable after ARC has recovered the specific loan. ARCs charge an asset management fee of 1.5-2% of the asset annually. Once an account is declared fraud, banks are required to set aside 100% of the outstanding loans.

What is asset reconstruction?

- An asset reconstruction means acquisition by an ARC of any right or interests of any Bank or Financial Institution in any financial assistance for the purpose of realisation of such financial assistance.

What is an Asset Reconstruction Company (ARC)?

- An Asset Reconstruction Company (ARC) is a company incorporated under the Companies Act and registered with Reserve Bank of India under section 3 of The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002.

36. China declares all Cryptocurrency transactions illegal:

- Central bank of China has declared all the Cryptocurrency transactions illegal on September 23, 2021.
- The global values of cryptocurrencies including Bitcoin have massively fluctuated in during 2020-2021 partly due to Chinese regulations, that sought to prevent speculation and money laundering.
- According to People's Bank of China (PBOC), Virtual currency-related business activities are illegal financial activities.
- Offenders will be "investigated for criminal liability" in accordance with the law.

- Chinese notice has banned all the related financial activities involving cryptocurrencies like transactions involving virtual currency derivatives, selling tokens, trading crypto, and illegal fundraising.

Why ban was put?

- According to People's Bank of China, trading of Bitcoin and other virtual currencies had become widespread and are disrupting economic & financial order. It also gave rise to money laundering, fraud, illegal fund-raising, pyramid schemes and other illegal & criminal activities. These disruptions were seriously endangering the safety of assets of the people. Considering these facts, China has declared all the Cryptocurrency transactions illegal.
- Crypto crackdown has opened up gates for China to introduce its own digital currency. China's own digital currency is already in the pipeline. It will allow the central government of China to monitor transactions.
- Crypto creation and trading have already been illegal in China since 2019.

About Cryptocurrency:

- A cryptocurrency is a digital or virtual currency that is secured by cryptography, which makes it nearly impossible to counterfeit or double-spend. Many cryptocurrencies are decentralized networks based on blockchain technology—a distributed ledger enforced by a disparate network of computers.
- A defining feature of cryptocurrencies is that they are generally not issued by any central authority, rendering them theoretically immune to government interference or manipulation.

Advantages of Cryptocurrencies:

1. Time Effective: Cryptocurrencies can help save money and substantial time for the remitter and the receiver, as it is conducted entirely on the Internet, runs on a mechanism that involves very less transaction fees and is almost instantaneous.
2. Cost Effective: Intermediaries such as banks, credit card and payment gateways draw almost 3% from the total global economic output of over \$100 trillion, as fees for their services.
3. Corruption Check: As blocks run on a peer-to-peer network, it helps keep corruption in check by tracking the flow of funds and transactions.

Is it a valid currency in India?

- It isn't a valid currency in the conventional sense, which means that you cannot pay with cryptocurrency to buy and sell anything in India. The currency of a country is legal tender backed by a sovereign guarantee. In India, only the central bank (RBI) can issue any currency.

37. Land records integrated with Centre's e-portal:

- According to union government, land records have been integrated with the e-portal of central government, by most states except three.
- Government further noted that, procurement in the Kharif Marketing season 2021-22 will be done as per new mechanism.
- Three states that have not integrated their digital land records with the nodal procurement agency, Food Corporation of India (FCI) include- barring Assam, Uttarakhand and Jammu & Kashmir.
- Cross-checking land records before procurement will help in ensuring that the MSP reaches to the farmers and not traders.
- Crop cultivated by farmers, either in their own land or rented property, will be procured by the government.
- To register on the portal, farmers will not need to provide physical proofs of land records.

Objective of the scheme:

- This mechanism was launched with the objective of finding how much crop has been cultivated in any particular area and how much the government procures from genuine farmers and not from traders.

Digital India Land Records Modernisation Programme (DILRMP):

- It is a Central Sector scheme which now stands extended up to 2020-21 with the total cost of Rs. 950 crores.
- Department of Land Resources also proposed an extension to 2023-24. This scheme attempts to build commonalities existing in the area of land records in several States to develop an appropriate Integrated Land Information Management System (ILIMS) in India.

Integrated Land Information Management System (ILIMS):

- ILIMS comprises of information on parcel ownership, taxation, land use, location boundaries, encumbrances, land value etc.
- Linking land record databases with banks
- Next phase of the **DILRMP** include linkage of land record databases with banks. It will enhance the service deliveries and will also function as inputs to the schemes in sectors like Agriculture, Finance and Disaster Management.

38. China Evergrande Debt Crisis:

- The debt crisis at world's most indebted property developer, China Evergrande Group, casted new light on the health of real estate market in China.
- As per Rushi Advanced Institute of Finance, condominium prices in Shenzhen city are now 57 times greater than the average annual income and 55 times greater than the income in Beijing.
- Prices in China are much greater than the Japan's bubble economy in 1990, when Tokyo condos were 18 times greater than the average annual income.
- Homes are beyond the reach of average households while investors fear President Xi Jinping could take measures to cool the bubble, especially in light of his "common prosperity campaign" that envisions a more equitable economy in which fruits of development are widely shared.

What are the concerns?

- Such moves increase the risk of puncturing the bubble and trigger a downward spiral, making a soft-landing imperative. If this situation is mishandled; it could push the China into an economic downturn.

Red Lines in China:

- In 2020, People's Bank of China had put out three "red lines" that major real estate developers needed to be careful about in terms of their financial status. Central bank sought to make it difficult for developers to increase leverage by forcing real estate companies to stay within a debt-to-asset ratio.

Common Prosperity campaign:

- In August 2021, China had launched a political campaign on the theme of "common prosperity". It aims to tackle inequality in China. Major element of the inequality in China is the money that wealthy make through real estate speculation.

39. India is Dubai's second biggest trade partner:

- India has emerged as the second biggest trading partner of Dubai, after China. India's overall volume, in the first half of 2021, is touching 38.5 billion dirhams.
- As per a statement of Dubai government, Dubai had a trade volume of 86.7 billion dirham with China in H1 (first half) of 2021. It is followed by India and the U.S. respectively at second and third positions.

- Trade with India has increased by 74.5% year-on-year to 67.1 billion dirhams in 2021 from 38.5 billion dirham in H1 of year 2020.
- China recorded a growth of 30.7% growth year-on-year. It is having a total trade of 66.3 billion dirhams with Dubai in H1 2021.
- In H1 2021, the US traded 32 billion dirhams with Dubai. This amount has increased by 1% year-on-year from 31.7 billion dirhams in 2020.
- Saudi Arabia was placed at fourth position with the trade value of 30.5 billion dirhams. It has increased by 26% as compared to H1 quarter of 2020.
- Saudi Arabia is followed by Switzerland with trade volume of 24.8 billion dirham.

Total share of trade partners:

- Total share of the five biggest trade partners in H1 of 2021 amounted to 241.21 billion dirhams as compared to 185.06 billion dirhams in H1 of 2020. It has increased by 30.34%.

Which commodities topped the list of trade?

- Gold topped the list of commodities in H1 external trade of Dubai, amounting to 138.8 billion dirhams. It accounts for 19.2% of Dubai trade. Gold is followed by telecoms amounting to 13% of total trade. It is followed by Diamonds, jewellery and vehicle trade. Non-oil external trade of Dubai has increased by 31% in the first half of 2021.

40. CSIR innovation award presented:

- Vice-President M. Venkaiah Naidu presented the Council of Scientific and Industrial Research (CSIR) innovation on September 26, 2021.
- Awards were presented to two Class 10 students from Udupi district in a virtual ceremony.
- Those students are Anusha and Rakshitha Naik from Charamakki Narayana Shetty Memorial Government High School in Ardi Village.
- They received the award for their project named "Gas Saving Kit".
- Award was sponsored by the Union Ministry of Science and Technology, that will reach to students in a week, via post.
- It comprises of a cash prize of Rs 20,000.

Background:

- Of all, 14 schools have been awarded from across the country.
- Out of 14 schools, Charamakki Narayana Shetty Memorial Government High School is the only government school to get this award.
- Both the students developed gas saving kit. This kit would enable a family of four to source hot water for bathing as well as cooking food simultaneously. It will also allow water to flow through a copper coiled frame which have been kept over a flaming stove. In the process, water flowing through the outlet pipe is heated.

Council of Scientific and Industrial Research (CSIR):

- CSIR was established in September 1942 by the Government of India as an autonomous body. It is the largest research and development organisation in India. It is mainly funded by the Ministry of Science and Technology. However, it operates as an autonomous body under the Societies Registration Act, 1860. The research and development activities the organisation comprises of structural engineering, aerospace engineering, ocean sciences, chemicals, mining, life sciences, metallurgy, food, leather, petroleum, and environmental science.

41. NCW Launches Training Program for Women in Dairy Farming:

- National Commission for Women (NCW) launched a nationwide training and capacity building programme for women in dairy farming.

- To launch the training programme, NCW is collaborating with agricultural universities in India in order to identify and train women working in the field of dairy farming and allied activities in several like value addition, quality enhancement and packaging & marketing of dairy products.
- First programme under this project was organised on "Value Added Dairy products" at Lala Lajpat Rai University of Veterinary & Animal Sciences in Hisar for women self-help groups. It was organised in collaboration with the Haryana State Rural Livelihood Mission.

Why this programme was launched?

- This programme was launched because women in rural India are involved in every part of dairy farming but they have not attained financial independence. Thus, this project was launched with the aim of empower women and help them in achieving them financial independence.

How financial independence would be ensured?

- This project seeks to help women in achieving financial independence by training them in aspects like quality enhancement of dairy products, value addition, packaging and marketing of their products and increasing the shelf life of products.

National Commission for Women (NCW):

- NCW is the statutory body that advises the government on all policy matters related to women. The body was established on January 31, 1992 under the provisions of the Indian Constitution.
- It was established by an act called National Commission for Women Act, 1990.

42. Revamped Quarterly Employment Survey (QES):

- The revamped quarterly employment survey (QES) for the months April-June was released on September 27, 2021 by Labour and Employment Minister Bhupendra Yadav.
- As per the survey, estimated total employment across nine selected sectors from first round of QES was 3 crores-8 lakhs.
- A growth rate of 29% was reported from a total of 2.3 crore in the sixth economic census (EC).
- Nine selected sectors selected for the survey include: manufacturing, construction, transport, trade, education, accommodation & restaurant, health, IT/BPO and financial services. These sectors account for a majority of total employment in non-farm establishments.
- Out of total employment in the selected nine sectors, Manufacturing accounts 41%. It is followed by Education (22%) and Health (8%).

Growth in different sector:

- As per report, IT/BPO sector witnessed the impressive growth of 152%. Health sector reported the growth of 77%. In education, growth is 39%. In Manufacturing, transport and construction there is a growth of 22%, 68% and 42% respectively.

Employment scenario:

- Employment in trade has reduced by 25% and in accommodation & restaurant it declined by 13%. Financial services witnessed a growth of 48% in employment.
- As per report, 90% of the establishments have been working with less than 100 workers as against the figure of 95% during sixth Economic Census (EC).
- About 35% of the IT/ BPO establishments worked with 100 workers.
- In Health sector, 18% of the establishments worked with 100 or more workers.
- Participation of female workers was at 29% as compared to 31% during 6th EC.
- Regular workers constitute 88% of the estimated workforce across the nine selected sectors.
- Only 9% of the establishments (with 10 workers) were not registered with any authority or any act.

43. Amazon Future Engineer Programme launched in India:

- E-commerce giant, Amazon India, announced the launch of “Amazon Future Engineer” on September 27, 2021 in India. Amazon Future is its global computer science education programme.
- As per company, Amazon future programme will enable access to quality computer science education as well as career opportunities for students from underrepresented and underserved communities.
- During the first year of its launch, Amazon aims to enable and deliver learning opportunities to about 1 lakh students from 900 government and aided schools in seven states of India.

Aim of the programme:

- Amazon Future Engineer programme was launched with the aim of addressing the gap by bringing early exposure and access to computer science education to students by means of in-person, online and blended learning formats.

Who is collaborating with Amazon?

- Amazon is working in collaboration with its global knowledge partner Code.org which is a global non-profit organization dedicated to computer science education.

Curriculum of the programme:

- Considering the local nuances, curriculum has been contextualized for Indian teacher and student community across government school settings. It will offer students with coding fundamentals along with the future-focused tech courses such as Artificial Intelligence, Natural Language Processing (Voice Technology) in Indian languages and Machine Learning.

Who will be covered under it?

- Amazon Future Engineer Programme will enable students from underserved communities in India to get, who face disproportionate barriers to education, especially in computer science, right exposure & accessibility to quality computer science education. This programme will bring Computer Science curriculum closer to all students in the languages of their choice.

44. Ease of Logistics Portal:

- The Union Minister of Commerce & Industry, Piyush Goyal, launched “Ease of Logistic Portal” on September 27, 2021.
- It is a trade facilitation portal, developed by FIEO. It was launched in order to bring exporters and logistics service providers (LSPs) on a single platform. On this portal, exporters can post details of their container requirements to the service providers directly in order to provide their best quotes.
- Ease of Logistics portal was launched to bring in transparency.

Federation of Indian Export Organisations (FIEO):

- FIEO is the apex trade promotion organisation, set up by the Ministry of Commerce in 1965. It is responsible for representing and assisting Indian entrepreneurs and exporters across the foreign markets.
- FIEO is the premier body comprising of export promotion councils, export development authorities and commodity boards in India.
- It provides a crucial interface between international trading community of India and the central & state governments, ports, railways, financial institutions, surface transport etc in export trade facilitation.

45. India to increase share of renewable energy to 60 % in Major Ports:

- According to Union Minister for Ports, Shipping and Waterways, Sarbananda Sonwal, government has aimed to increase India’s share of renewable energy to 60% in Major ports through solar and wind power.

- Presently, renewable energy accounts for less than 10% of power demand at the ports.
- Government also targets to electrify 50% of port equipment by 2030.
- As per plan, all the ports will supply shore power to visiting ships in three-phased manner by 2030.
- Ports aim to reduce carbon emissions/ton by 30% by 2030.

Energy efficiency requirements:

- India will implement energy efficiency requirements of International Maritime Organization (IMO), for ships and carbon intensity requirements across all of its coastal or international vessels in order to help IMO in achieving greenhouse gas reduction targets. India is currently supplying shore power to vessels with power demand of less than 150 kW.

Nationally Determined Contributions (NDC):

- Nationally Determined Contributions (NDC) of India under the Paris Agreement for 2021-2030 comprises of “cutting the emissions intensity of its gross domestic product by 33%-35% by 2030”. NDC seeks to achieve 40% of cumulative power installed capacity from non-fossil fuel-based energy resources by 2030 by transferring technology and low-cost international finance.

Economic Survey 2021 take on energy:

- As per Economic Survey for 2021, India will require around \$206 billion in between 2015 and 2030 to implement adaptation actions in key areas such as forestry, agriculture, fisheries, water resources, infrastructure and ecosystems.
- Economic survey hopes to achieve 40% of cumulative installed power capacity from non-fossil sources by 2030.
- It also hopes to increase its forest and tree cover by 2030 in order to create an additional carbon sink equal to 2.5 to 3 billion tons of carbon dioxide by 2030.

46. BRICS Energy Technology Report 2021:

- Recently, Union Minister of State for Power and Heavy Industries chaired the “Meeting of BRICS Ministers of Energy” under the Chairship of India. The Energy Ministers of BRICS Countries and delegates attended the virtual meeting.
- During the Meeting, BRICS Energy Report 2021, BRICS Energy Technology Report 2021 and BRICS Energy Research Directory 2021 were launched virtually by the minister, in the presence of the Energy Ministers of BRICS Countries. This was the 6th meeting of BRICS Energy Ministers and a joint communique was adopted.
- The BRICS Energy Technology Report 2021 is the outcome of collaborative efforts of the Bureau of Energy Efficiency (BEE) and Indian Council for Research on International Economic Relations (ICRIER).
- Addressing the meet, the minister emphasised upon the need of promoting energy efficiency and renewables to combat adverse effect of climate change.
- He also welcomed the efforts made by Energy professionals from Brazil, India, China South Africa and Russia in ensuring regular power supply despite difficult circumstances due to Covid 19 conditions.
- India is committed to improving the quality of life of its citizens by ensuring adequacy of electricity availability.
- The ‘Power for All’ by 2022 program is a major step in this direction. We have achieved universal access. We added 28 million consumers in just about 18 months, which was the fastest expansion access anywhere in the world, and much of it is due to the fact that we went in for renewables in a major way.

Overview of Energy Technology Report (2021) India:

- India's total energy supply is dominated by coal, with a share of approximately 45 per cent. As of 2018, the corresponding shares for crude oil, natural gas, nuclear energy, hydro, wind & solar energy, biofuels & waste are 29.48%, 5.7%, 1.07%, 1.41%, 1.08% and 20.13% respectively.
- India has done a commendable job with regard to renewable energy deployment and accounts for one-fifth of the global renewable energy deployment targets for 2030. India aims to reach 175 GW of renewable energy capacity by 2022 and 450 GW by 2030.
- Additionally, as per the **Nationally Determined Contributions (NDCs)**, India is committed to achieve about 40 percent cumulative electric power installed capacity from non-fossil-fuel energy resources by 2030.

47. AT1 Bonds:

- Department of Financial Services (DFS), under finance ministry, has sent a memorandum to the chairman of Securities and Exchange Board of India (Sebi) and has asked it to withdraw a rule treating AT1 bonds (perpetuals) which is having 100-year maturity.

Highlights:

- The circular was issued by SEBI on March 10, 2021 regarding the AT1 bonds and this will take effect from April 1, 2021. This circulation has generated significant apprehension in mutual fund industry for which the losses would result from the consequential revaluation of AT1 bonds.

About AT1 Bonds:

- **AT1 bonds** are the hybrid products which offer a fixed return which can be reset. These bonds are however risky as equities. These are unsecured instruments and are complex in nature. The investors are required to read the fine print before they put money in them. The bonds do not have fixed maturity. However, the banks which are issuing them can repay them at certain dates. These specified dates are regarded as the maturity dates historically.

What was the issue?

- The **AT1 bonds** with the **100 years** of maturity was being regarded as a risk. A change in the maturity to 100 years had the potential to increase the interest rate sensitivity of the portfolio of the fund. This, the investors were vulnerable to losses in case of even a small increase in interest rates. Thus, the mutual funds have expressed fears of increase in redemptions by investors because of fear of such losses. On the other side, the bonds are of relatively low liquidity because of which it is hard to sell them.

48. MSP increased for all Rabi crops for 2022-23:

- Cabinet Committee on Economic Affairs (CCEA) approved an increase in Minimum Support Prices (MSP) for all the mandated Rabi crops on September 8, 2021.
- MSP was increased for the Rabi Marketing Season (RMS) 2022-23 with the aim of realigning MSPs in favour of pulses, oilseeds, and coarse cereals. The Differential remuneration aims to encourage crop diversification.

Benefits of increased MSP:

- This move will encourage farmers to shift to larger area under these crops and adopt best technologies & farm practices in order to correct the demand-supply imbalance.
- With this step, government seeks to ensure remunerative prices for the growers for farmer's produce.

MSP rate:

- Highest absolute increase in MSP has been recommended. MSP has been increased by Rs 400 per quintal on each of lentil, rapeseeds and mustard. On gram, it was increased by Rs 130 per quintal while in case of safflower, it was increased by Rs 114 per quintal as compared to MSP in 2020.

Background:

- MSP for Rabi crops for RMS 2022-23 was increased in line with the Union Budget 2018-19 announcement. In budget it was announced to fix the MSPs at the level of at least 1.5 times of the all-India weighted average cost of production.

Other Steps by Government:

1. **National Mission on Edible Oils-Oil Palm (NMEO-OP):** Government announced this centrally sponsored scheme recently to help in increasing the domestic production of edible oils and reduce imports dependency. It was announced with a total outlay of Rs 11,040 crore. Scheme will aid farmers in expanding area and productivity of the sector and benefit them by increasing their income and generation of additional employment.
2. **Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA):** This scheme was announced in 2018 to aid farmers in providing remunerative return for their produce. It has three sub-schemes namely, Price Support Scheme (PSS), Private Procurement & Stockist Scheme (PPSS) and Price Deficiency Payment Scheme (PDPS).

49. Gyanvapi mosque-Kashi Vishwanath temple title dispute:

- Recently, the Allahabad High Court put hold on the order of Varanasi court that had asked for a 'comprehensive archaeological physical survey' of the disputed Gyanvapi mosque-kashi Vishwanath temple complex.
- While staying the order of Varanasi court, Allahabad High Court (HC) underlined that HC "can interfere to keep subordinate tribunals & Courts 'within the bounds of their authority'.
- Petition was filed by UP Sunni Waqf Board and Anjuman Intezamia Masjid Varanasi, to challenge the April 8 order of the Varanasi court. However, Justice Prakash Padia ordered a stay on petitions. This miscellaneous application filed by Sunni Waqf Board was part of a writ petition that was being heard on complex dispute in Allahabad High Court. Allahabad HC had reserved the order on March 15 after the completion of arguments in this matter.
- Kashi Vishwanath Temple is one among the most famous Hindu temples dedicated to Lord Shiva, located in the Vishwanath Gali of Varanasi. It stands on the western bank of the river Ganga. It is one among the twelve Jyotirlingas. Main deity in the temple is known by the names Shri Vishwanath and Vishweshwara which literally means Lord of the Universe.
- In ancient times, Varanasi city was called as **Kashi**. Hence this temple is popularly called **Kashi Vishwanath Temple**.
- This Temple has been referred as a central part of worship in the Shaiva Philosophy in Hindu scriptures for a very long time. It is claimed that, this temple had been demolished many times in ancient time. Current structure of the temple was built in 1780, on an adjacent site by Maratha ruler, Ahilya Bai Holkar of Indore.

50. Digital Population Clock inaugurated:

- Recently, the Union Minister of State for Health & Family Welfare inaugurated "Digital Population Clock" on September 10, 2021.
- The Minister also presided over the Seminar on Population, Human Capital and Sustainable Development.
- **Digital Population Clock** was inaugurated at the Institute for Economic Growth inside the University of Delhi.
- She launched a book titled "Infant and Child Mortality in Assam – Demographic and Socio-Economic Interrelations" on the occasion. The book was written by Dr Dipanjali Haloi and Dr Suresh Sharma.

What is the purpose of Population clock?

- Population clock was launched in order to provide minute by minute estimate of India's population. It will also capture data on Total Fertility Rate, Infant Mortality Rate as well as Maternal Mortality Rate. It will help in raising awareness in young generations and conducting research.

Comparison of populations:

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- Comparison of populations of different countries or region becomes more meaningful if it is done by comparing the average density of population of each area.
- This is an expression of man-land ratio.
- The density of population can be expressed as
Density = $\frac{\text{Total number of people of a country}}{\text{Total area of the country}}$

51. Co-WIN develops new API called KYC-VS:

- Recently, the Union government announced an Aadhaar-like authentication system on September 10, 2021 to access the covid vaccination status of an individual on the CoWin platform.
- This new application programming interface (API) has been developed by CoWin. It is called 'Know Your Customer's or Client's Vaccination Status' or KYC-VS.
- The API was developed as an extra security layer in order to protect personal data before sharing it with any third-party verifying entity as and when required.

How vaccination status can be accessed?

- In order to access the vaccination status of the person, his registered mobile number and name must be entered by the verifying entity in order to generate a one-time password or OTP. This two-layer authentication will enable CoWin to quickly respond on the vaccination status.
- It will show 0, if the person is not vaccinated
- 1 if the person is partially vaccinated and
- 2 if the person is fully vaccinated.
- Report on vaccination will be digitally signed and can be shared instantly by the verifying entity.

CoWIN Platform:

- CoWIN is dubbed as "Covid Vaccine Intelligence Network". This web portal was developed by Indian government for COVID-19 vaccination registration. It is owned and operated by Ministry of Health and Family Welfare.
- The portal displays booking slots of COVID-19 vaccine in the nearby areas and can be booked through it. This portal has also been integrated with the Aarogya Setu and UMANG Apps. It also provides digitally verifiable certificate, which can be saved on a device or on Digi Locker, digitally.

52. Pradhan Mantri Digital Health Mission:

- Recently, the Prime Minister has launched the **Pradhan Mantri Digital Health Mission (PM-DHM)** to create a platform to **store and exchange health records of citizens**.
- The pilot project had been announced by PM Modi from the ramparts of Red Fort on 15th August 2020 and is now being implemented in the pilot phase in **six Union Territories**.
- According to the Prime Minister's Office, the system will be based on the foundations laid down in the form of **Jan Dhan, Aadhaar and Mobile (JAM) trinity** and other digital initiatives of the government.
- Using these, the PM-DHM will create a seamless online platform through the provision of a wide range of data, information and infrastructure services, duly leveraging open, interoperable,

standards-based digital systems while ensuring security, confidentiality and privacy of health-related personal information. Thus, the mission will provide a health ID for every citizen.

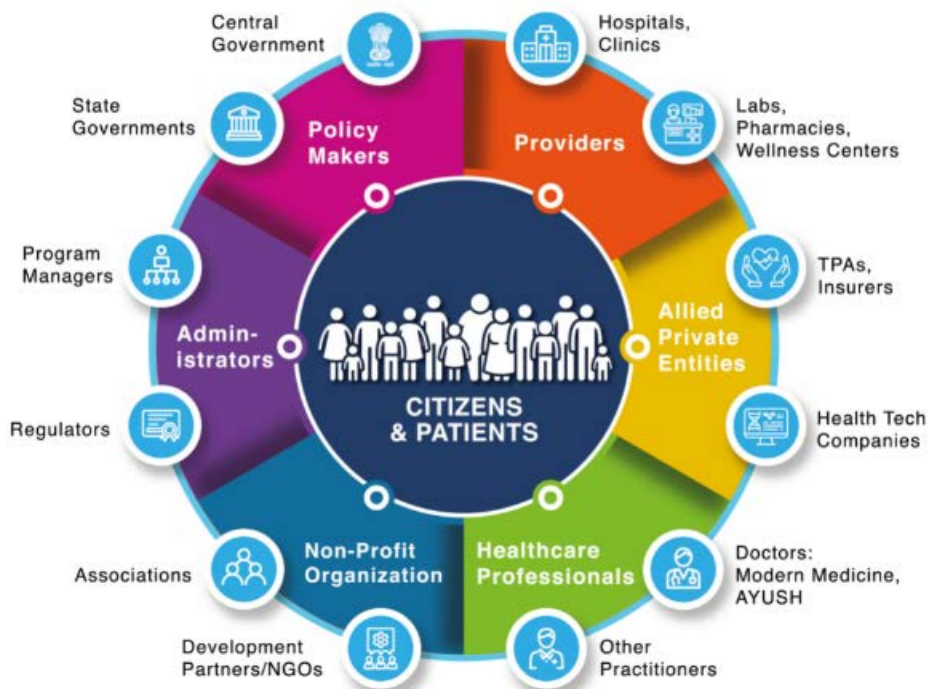
- The unique ID will also work as their health account, to which personal health records can be linked and viewed with the help of a mobile application; a Healthcare Professionals Registry (HPR) and Healthcare Facilities Registries (HFR) that will act as a repository of all healthcare providers across both modern and traditional systems of medicine.
- The ID will allow hospitals/ doctors to easily avail a patient's medical history saving time and effort in the process. With the mission, the government plans to form a digital health ecosystem, similar to the role played by the Unified Payments Interface in revolutionizing payments.
- The patients whose IDs are formed during the pilot project, they will be able to check their medical history in one click. Once provided with the needed details, hospitals as well as doctors will be able to look into the citizen's medical details with ease using the platform.

PM-DHM Sandbox:

- **PM-DHM Sandbox**, created as a part of the mission, will act as a framework for technology and product testing that will help organizations, including private players, intending to be a part of the National Digital Health Ecosystem become a Health Information Provider or Health Information User or efficiently link with building blocks of the mission.

53. PM Modi launches Ayushman Bharat Digital Mission:

- The **Ayushman Bharat Digital Mission (ABDM)** aims to develop the backbone necessary to support the integrated digital health infrastructure of the country. It will bridge the existing gap amongst different stakeholders of Healthcare ecosystem through digital highways.



- **ABDM** shall create a seamless online platform “through the provision of a wide-range of data, information and infrastructure services, duly leveraging open, interoperable, standards-based

digital systems” while ensuring the security, confidentiality and privacy of health-related personal information.

54. Amrit Grand Challenge Program:

- The Union Minister of Earth Sciences has launched the “AmritGrand Challenge Program” titled “जनCARE”. He also addressed the 10th Biotech Innovators Meet.
- The challenge aims to identify 75 startup innovations in telemedicine, digital health, mHealth with BIG Data, AI, blockchain and other technologies. The theme was “Vigyan se Vikash”.
- The term BioEconomy generally refers to an economy that uses renewable natural resources to produce food, energy, products and services. The important renewable natural resources include the biomass in forests, soil, fields, bodies of water and the sea and freshwater.
- Bio Economy:
- The 'Bio Economy sector' has huge growth potential. It will more than double from 70 billion dollars at present to 150 billion dollars by 2025.
- Hence, BIRAC has established 60 world-class Bio-incubators in the country to engage with Startups and young entrepreneurs in the Bio economy sector.

55. World’s largest plant to suck CO2 from air starts in Iceland:

- World’s largest plant that has been designed to suck carbon dioxide (CO2) from air and turn it into rock was started recently in Iceland.
- This plant has been named as Orca, after the Icelandic word “orka”, meaning energy.
- The plant comprises of four units. Each of the units are made up of two metal boxes. They are similar to the containers used for maritime transport, in appearance.
- Orca plant has been constructed by Switzerland’s Clime works and Iceland’s Carbfix. When the plant will operate at its full capacity, it will draw 4,000 tonnes of carbon dioxide (CO2) from air every year. As per US Environmental Protection Agency (EPA), this amount is equal to the emissions from about 870 cars.

2. Process of CO2 collection:

- In order to collect the CO2, Orca plant uses fans to draw air into the collector comprising of filter material inside. Once the filter material is filled with carbon dioxide, collector is closed and temperature is raised to release the carbon dioxide from the material. Following this process, highly concentrated gas can be collected. Collected CO2 is mixed with water and are injected at a depth of 1,000 metres into nearby basalt rock where it is petrified.
- As per the proponents of carbon capture and storage (CCS), these technologies can become a major tool towards the fight against climate change. However, it is still prohibitively expensive and will take decades to operate at larger scale.

56. England: First country to mandate new homes to install EV chargers:

- The British government has announced to introduce legislation in 2021, under which all the newly built homes and offices will require to feature electric vehicle chargers in England.
- Under the legislation, all new homes and offices will be required to feature smart charging devices which can automatically charge vehicles during off-peak periods.
- According to it, new office blocks will require to install a charging point for every five parking spaces.
- This law will make England the first country in the world, that require all new homes to have EV chargers.

- The legislation is part of the movement that seeks to rapidly boost the number of chargers in England ahead of UK's 2030 ban of new fossil-fuel vehicles. Home and office EV charger proposal is expected to start in 2022.
- This legislation will help in boosting confidence and help those who transition from gas cars in overcoming the range anxiety because many homes in England do not have off-street parking or garages.

Ban of new fossil-fuel vehicles:

- United Kingdom Prime Minister, Boris Johnson, had recently announced to ban the sale of gasoline-powered vehicles from 2030, nothing the future of personal mobility on electric vehicles. The ban on gasoline vehicles had initially been proposed for 2040. But it has been brought forward by ten years under the ten-point plan of UK of achieving net zero greenhouse gas emissions by 2050. Hybrid vehicles would be phased out by 2035.

57. India-US Climate Action and Finance Mobilisation Dialogue:

- Recently, US Special Presidential Envoy for Climate, along with India's Union Minister for Environment, Forests and Climate Change launched the Climate Action and Finance Mobilisation Dialogue (CAFMD) between the two countries.
- India has so far abstained from committing to a net zero goal but is on a climate pathway that is compatible with keeping global temperatures to below 2 degree celsius by the end of the century.
- It is one of the two tracks of the India-US Climate and Clean Energy Agenda 2030 partnership launched at the Leaders' Summit on Climate in April 2021.
- Earlier, the revamped US-India Strategic Clean Energy Partnership SCEP (first track) was launched.
- It will provide both countries an opportunity to renew collaborations on climate change while addressing financing aspects and deliver climate finances primarily as grants and concessional finance as envisaged under the Paris Agreement.
- It will also help to demonstrate how the world can align swift climate action with inclusive and resilient economic development, taking into account national circumstances and sustainable development priorities.

Climate Action Pillar:

- It would have joint proposals looking at ways in which emissions could be reduced in the next decade.

Finance Pillar:

- Through this the US will collaborate in attracting capital and enhancing the enabling environment to deploy 450 GW of renewable energy capacity in India and demonstrate and scale innovative clean energy technologies and promote bilateral clean energy investment and trade.

Adaptation and Resilience:

- The two countries will collaborate in building capacities to "measure and manage climate risks".

How can it benefit India?

- There's never been a better time to invest in the energy transition. Renewable energy is cheaper than ever.
- In fact, it is cheaper to build a solar farm in India than anywhere else on the planet.
- Investors are now moving to clean energy all around the world and the energy transition is already rebounding after the worst of the pandemic and is now on track to smash the pre-pandemic record of 8.4 billion USD invested in one year.

- The International Energy Agency forecasts that if India seizes the clean energy opportunity, it could become the world's largest market for batteries and solar panels.
- Currently India's installed power capacity is projected to be 476 GW by 2021-22 and is expected to rise to at least 817 GW by 2030.

Page|39 **58. NITI Aayog suggests to build 500 'healthy cities':**

- Recently, a high-level committee on urban planning (under NITI Aayog) has recommended a central sector scheme to develop 500 healthy cities in India over the next five years while suggesting a need for ramping up of human resources needed for planned urbanisation in India, including filling up of existing vacancies and opening up of over 8000 new posts for town planners.
- The report comes after the country witnessed massive shortage of health infrastructure during the first and the second wave of the pandemic.
- The 'Building Urban Planning Capacity in India' report comprises of a set of recommendations on several aspects of urban planning like:
 1. Interventions for planning healthy cities
 2. Optimum utilization of urban land
 3. Ramping up human-resource capacities
 4. Strengthening urban governance
 5. Building local leadership
 6. Enhancing the role of private sector and
 7. Advancing the urban planning education system.

Key recommendations of the report:

- As per report, India needs a Central sector scheme to build 500 'healthy cities' over the next five years as well as a thorough revamp of town-planning acts in states in order to meet future challenges of urbanisation.
- As per the NITI Aayog, the Central sector scheme for building 500 healthy cities will have to be initiated by Ministry of Housing & Urban Affairs in association with the states & Union Territories.
- NITI Aayog also emphasised on the need of reducing carbon footprint in urbanisation and urban India will be power India's economic growth.
- According to NITI Aayog, there is a need to plug the gaps in urban-planning capacity in India. Otherwise, the opportunity for rapid, sustainable & equitable growth will be at risk of being missed.

The NITI Aayog:

- NITI Aayog is the premier policy think tank of the Government of India, providing directional and policy inputs. It also provides relevant technical advice to the Centre, States, and Union Territories.

59. Two more Indian beaches gets International Blue Flag certification:

- Recently, two more beaches in India have received the 'Blue Flag' certification. With the addition of two beaches, the total number of such beaches in India have reached to 10.
- The Blue flag certification is an international eco-level tag. Two beaches that received the certification in 2021 are Kovalam in Tamil Nadu and Eden in Puducherry.
- Blue Flag recertification was also done for eight nominated beaches namely, Shivrajpur in Gujarat, Ghoghla in Diu, Kasarkod & Padubidri in Karnataka, Kappad-Kerala, Rushikonda in Andhra Pradesh, Golden in Odisha and Radhanagar in Andaman & Nicobar. All these beaches were awarded this certificate in the year 2021.

- Beaches with Blue Flag certification are considered as the cleanest beaches across the world. It is one of the world's most recognised voluntary eco-labels that are awarded to beaches, marinas, as well as sustainable boating tourism operators. Blue flag certification programme was launched in 1985 in France.

Criteria:

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- To certify a beach with blue flag certification, a series of stringent environmental, educational, accessibility & safety criteria is checked. There are 33 such criteria that are required to be met in a bid to qualify for a Blue Flag certification. Criteria include water meeting certain quality standards, being disabled- friendly, having waste disposal facilities, having first aid equipment etc. Some of these criteria are voluntary and some are compulsory.
- The Blue Flag Certification Programme for beaches and marinas is run by the international, non-governmental & non-profit organisation called "Foundation for Environmental Education (FEE)".



60. Bangladesh PM conferred with SDG Progress award:

- Recently, the Prime Minister of Bangladesh, Sheikh Hasina has been conferred with SDG Progress award for Bangladesh's steady progress in achieving the Sustainable Development Goals (SDGs) by the UN sponsored Sustainable Development Solutions Network (SDSN).
- The SDSN was set up in 2012 under the auspices of the UN Secretary General. Led by development economist Jeffery Sachs, the SDSN seeks to mobilize global scientific and technological expertise to promote practical solutions for sustainable development.

SUSTAINABLE DEVELOPMENT GOALS



61. Global companies to reduce emissions from ships by 2050:

- Recently, more than 150 leading companies and organisations including oil majors and port authorities called for the global shipping industry to be fully decarbonised by 2050, urging governments to step up action warning time was limited.
- With about 90% of world trade transported by sea, global shipping accounts for nearly 3% of the world's CO2 emissions and the sector is under growing pressure to get cleaner.
- UN shipping agency called International Maritime Organization (IMO), aims to reduce the overall greenhouse gas (GHG) emissions from ships by 50 percent as compared to 2008 levels by 2050. However, industry groups are calling to accelerate action from governments.

International Maritime Organization:

- The International Maritime Organization is a specialised agency of the United Nations responsible for regulating shipping.
- The IMO was established following agreement at a UN conference held in Geneva in 1948 and the IMO came into existence ten years later, meeting for the first time in 1959.

Call to Action initiative:

- Call to Action initiative was developed by the World Economic Forum, non-profit Global Maritime Forum and other partners. This action initiative calls for decarbonization of the shipping which could only happen with the urgency, if governments and regulators establish proper policy frameworks.

Initiative by companies and groups:

- In the latest initiative, shipping, chartering, finance, fuel production & ports companies and groups are asking for stronger measures in order to ensure that sector will meet the climate goals set by the Paris accord. Paris accord seeks to limit the global warming to less than 2 degrees Celsius.

62. IPCC report: Sea level rise is certain:

- Intergovernmental Panel on Climate Change (IPCC) recently published the Assessment Report from Working Group I titled "Climate Change 2021: The Physical Science Basis". The report call for is a clear climate action.

- IPCC report provides one of the most expansive scientific reviews on science and impacts of climate change.
- It discussed five different shared socio-economic pathways for future with different levels of greenhouse gas (GHG) emissions.
- **It illustrated following scenarios:**
- Very low and low GHG emissions: Here, emissions decline to net zero around the middle of the century. Beyond this, emissions are net negative.
- Intermediate GHG emissions: Emissions are double the current level by 2100.
- High and very high emissions: Here, emissions are double the current levels by 2050.
- In the intermediate scenario, Average warming is likely to exceed 2°C near mid-century.
- Average global temperature is currently 1.09°C higher than pre-industrial levels while the CO₂ concentration in the atmosphere is 410 ppm as compared to 285 ppm in 1850.

Concerns of rising sea level:

- Sea level rises due to the expansion of warm ocean waters, melting of ice sheets in Greenland & Antarctica and melting of glaciers on land.
- About 700 million people across the world live along the coast and the plans to expand coastal cities still continue.
- Thus, understanding of the risks involved from climate change and rising sea level is crucial in 21st and 22nd centuries.
- Sea level will continue to rise even after emissions are no longer increasing, because oceans respond slowly to warming.
- Global mean sea level (GMSL) increased by 0.2m in between 1901 and 2018.
- Average rate of sea level rise was 1.3 mm/year in between 1901-1971 and increased to 3.7 mm/year in the year 2006-2018.

63. WHO revises Air Quality Norms:

- In a bid to push countries towards clean energy, the World Health Organisation (WHO) has tightened the air quality guidelines for the first time since 2005.
- WHO set the new standards in the first update of its air quality guidelines since 2005.
- PM 2.5 norms for 24 hours average has been changed to 15 micro-g/m³ against 25 micro-g/m³ in 2005.
- While the PM 2.5 norms for annual average has been changed to 5 micro-g/m³ against the 10 micro-g/m³ in 2005.

Where does India stand?

- At the current relaxed standards, most of the Indian cities fail to meet these levels. Annual PM 2.5 average in India is at 40 micro-g/m³ against the annual limit of 10 micro-g/m³ (2005) by WHO. As a result, India needs to revise its air quality standards to make them more stringent.
- Under the National Clean Air Programme (NCAP), India is committed to minimise 20-30 per cent of air pollution in cities. To check the stubble-burning, Bio-decomposer will be used on 6 lakh acres land in UP, 1 lakh acres land in Haryana and 7,413 acres land in Punjab. Use of bio-decomposers is part of the action plan of preventing and controlling stubble burning in Delhi-NCR region.

About National Clean Air Programme (NCAP):

- NCAP was launched in January 2019 by the MoEFCC. It is the first-ever effort in India to frame a national framework for the management of air quality with a time-bound reduction target. This action plan seeks to reduce the concentration of coarse and fine particles by at least 20% in the next five years (base year 2017). This plan comprises of 102 non-attainment cities in 23 states

and Union territories. These cities were identified by the Central Pollution Control Board (CPCB) by analysing their ambient air quality data between 2011 and 2015.

64. UNICEF's 'Fed to Fail' Report:

- Recently, UNICEF released its new report titled "Fed to Fail? The crisis of children's diets in early life".

Key Findings:

- According to the report, Children aged under 2 are not getting the food or nutrients they need to thrive and grow well. This is leading to irreversible developmental harm.
- Report warns that rising poverty, conflict, inequality, climate-related disasters, and health emergencies like COVID-19 pandemic, are contributing to the nutrition crisis among those children.
- Poor nutritional intake in the first two years of life can harm the rapidly growing bodies and brains of the children. It also impacts their schooling, job prospects and futures. But there has been little progress towards providing right kind of nutritious and safe foods for them.
- While conducting the analysis across 91 countries, the report finds that, half of children aged 6-23 months are getting minimum recommended number of meals in a day.
- One third of the children consume the minimum number of food groups they need to grow.

Impact of Covid-19:

- COVID-19 pandemic still continues to disrupt the essential services and is driving more families into poverty. According to the report, pandemic is also affecting how families feed their children. In several countries, families have been forced to reduce the purchases of nutritious food. Because of this, percentage of children consuming minimum recommended number of food groups reduced by a third in 2020 as compared to 2018.

Vulnerability of Children:

- Children aged under two are most vulnerable to all forms of malnutrition like wasting, stunting, micronutrient deficiencies, overweight and obesity. As per UNICEF estimates, more than half of children aged under 5 are vulnerable to wasting, globally.

65. WFP-ICRISAT sign agreement on Food Security:

- WFP-ICRISAT agreement: The United Nations World Food Programme (WFP) and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) have partnered on programmes and research to strengthen food, nutrition security, and livelihoods in India.
- A Memorandum of Understanding (MoU) was signed on September 23, 2021, between WFP India representative and country director Bishow Parajuli and Director-General ICRISAT Jacqueline Hughes.
- "The partnership of WFP-ICRISAT aims at generating ideas and frameworks for policy positions relevant not just for India but regularly and globally", said Director-General ICRISAT Jacqueline Hughes. The WFP-ICRISAT partnership signing coincides with the 2021 UN Food Systems Summit.

About WFP-ICRISAT agreement:

- The United Nations World Food Programme (WFP) and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) on programmes and research to improve food, nutrition security, and livelihoods in India.
- The partnership of WFP-ICRISAT is a strategic one as both the institutions are aligned by their vision of food security, especially for the most vulnerable communities and the poorest.

Significance:

- The frequent and increasing number of climate crises and shocks such as the COVID19 pandemic have worsened the hunger situation globally, and pose a threat to food security, nutrition, and the livelihoods of millions.
- The focus areas of ICRISAT are climate-resilient food security, nutrition, and livelihoods especially for ecological vulnerable communities and smallholder farmers. In the latest 6th Assessment Report by IPCC, an alarm was raised on the impact of climate change on food security and agriculture.
- The WFP-ICRISAT partnership strengthens efforts to bring together knowledge, science, and implementation frameworks to strengthen food security, nutrition, and livelihoods that are resilient to climate change.
- The partnership holds significance as it will focus on vulnerability analysis at the state level in India and it will be directed towards evolving a sustainable food systems approach.

What will WFP and ICRISAT do?

- The WFP in India and ICRISAT will work in partnership to promote research, advocacy, and raise awareness on traditional nutritious crops, undertake food and nutritional security analysis, and adapt strategies, among other activities.

World Food Programme:

- Established in 1961, the United Nations World Food Programme is the world's largest humanitarian organization that focuses on building prosperity, saving lives in emergencies, and supporting a sustainable future for people who are recovering from disasters, conflict and the impact of climate change.

ICRISAT:

- The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a non-profit, non-political international organization that conducts agricultural research for development in Asia and sub-Saharan Africa.
- ICRISAT and its partners work towards empowering the poorest of the poor people across the world to overcome the threats of poverty, hunger, and a degraded environment through better agriculture.

66. WMO Report: Climate Indicators and Sustainable Development:

- Recently, the World Meteorological Organization (WMO) has published a new report on Climate Indicators and Sustainable Development: Demonstrating the Interconnections.
- WMO studied seven climate indicators-carbon dioxide (CO₂) concentration, temperature, ocean acidification and heat, sea ice extent, glacier melt and sea-level rise.
- Its release coincides with the United Nations General Assembly annual session and the opening in September 2021 of the Sustainable Development Goals (SDGs) Action Zone, which is dedicated to accelerating action on the SDGs.

Key Points:

- It aims to contribute to the sustainable development agenda and to inspire leaders to take bolder climate action.
- In the face of ongoing climate change, poverty, inequality and environmental degradation, understanding the connections between climate and international development is a matter of urgency.
- Increasing temperatures will result in global and regional changes, leading to shifts in rainfall patterns and agricultural seasons. The intensification of El Niño events is also generating more droughts and floods.

Rising CO₂ Concentration:

- The rising concentration of CO₂ will impact all of the 17 United Nations-mandated SDGs.

- Rising CO2 concentration due to human activities is a key driver of global climate change.
- Impact on SDGs:
- Rising CO2 concentration and increasing global temperatures, if left unchecked, would negatively impact efforts to combat climate change under the SDG 13.
- This, in turn, would pose a significant threat to the achievement of the 16 SDGs other than SDG 13, by 2030.
- This would happen because uncontrolled rising CO2 emissions would be indirectly responsible for risks related to the remaining six climate indicators, namely temperature, ocean acidification and heat, sea ice extent, glacier melt and sea-level rise.
- For instance, rising concentrations of CO2 in the atmosphere will lead to reductions in nutrient content, affecting food security or the SDG indicator 2.1.2.
- This would affect the global goal on tackling poverty, SDG 1, as well.
- Rising CO2 in water would cause ocean acidification, directly affecting SDG indicator 14.3.1 which addresses marine acidity.
- Both food insecurity and loss of livelihood may drive conflicts related to resource management, thus threatening regional peace and stability (SDG 16.1).
- Extreme events attributed to rising temperature affect rainfall patterns and groundwater availability, which leads to a higher risk of water scarcity, directly affecting SDG 6 on access to water and specially the targets.

67. World's highest EV charging station opened in Himachal Pradesh:

- World's highest EV charging station was opened at Kaza town, which is located in of Lahaul and Spiti district of Himachal Pradesh.

Key Points:

- The EV charging station was opened on September 23, 2021 in order to promote a sustainable environment.
- It is the world's highest electric vehicle charging station located at 500 ft.
- Along with the EV charging station, two women drove electric vehicles from Manali to Kaza to promote a clean and green environment.
- All the products including chargers of this station are made in India.

India's EV ecosystem:

- India is gaining good momentum in the electric vehicle (EV) ecosystem. There is a good response for battery-operated small electric vehicles such as e-scooter, e-rickshaws, electric three-wheelers, e-carts, and e-bikes in India. Currently, road ministry is planning to run railway, metro, and long-run intercity buses on green hydrogen fuel.
- Battery electric vehicle as well as fuel cell vehicle technologies are complementary to each other. These technologies are all set to overtake fossil-run automotive by 2050 in India.

Kaza Town:

- Kaza Town is the sub-divisional headquarters of Spiti Valley. It is located in western Himalayas in Lahaul and Spiti district of Himachal Pradesh.
- Spiti is a high altitude or cold desert which is having close similarities to the neighbouring Tibet and Ladakh regions with respect to the terrain, climate and the Buddhist culture. Kaza is situated along the Spiti River, at the elevation of 3,650 metres. It is the largest township and commercial center in Spiti valley.

68. India's clean energy commitments at UN summit:

- During the first leader-level meeting on energy, under the UN General Assembly, India has made commitments to increase the renewable energy installed capacity to 450 GW by 2030.

Key Points:

- India has also committed to develop and implement a National Hydrogen Energy Mission in order to boost the annual green hydrogen production to 1 MT by 2030.
- It also announced to start a Production Linked Incentive Scheme which will help in adding 10 GW solar PV manufacturing capacity by 2025.
- India's commitments were the part of new multi-billion-dollar commitments that countries made in order to increase renewables and access to electricity & clean cooking technologies at the critical summit.
- The summit was aimed at boosting efforts towards reducing the ranks of about 800 million people living in energy poverty. It also seeks to set the world on a trajectory towards net-zero-emissions by 2050.
- Production Capacity of Compressed Biogas
- India also announced to establish a 15 MMT production capacity of compressed biogas by 2024 and achieve 20 per cent ethanol blending in petrol by the year 2025-26. It seeks to enhance energy efficiency in agriculture, industry, buildings and transport sectors besides promoting energy-efficient appliances & equipment in a bid to reduce India's emissions intensity of GDP by 33-35 per cent by 2030.

Commitments by other countries:

- About 35 countries including Small Island, Developing States and major emerging & industrialized economies have made new energy commitments in the form of Energy Compacts. They also announced partnership initiatives with the aim of providing and improving access to reliable electricity.

69. Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021:

- Recently, the Ministry of road transport and highways announced the detailed procedure of setting "Registered Vehicle Scrapping Facility (RVSF)" under the "vehicle scrapping policy".

Vehicle Scrapping Policy:

- Vehicle Scrapping Policy was launched in August 2021 by Prime Minister Narendra Modi last month.
- It was announced by in the Budget 2021.

About the rules:

- Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021 were released on March 15, 2021 by the Ministry of Road Transport and Highways (MORTH).
- Provisions under the rules lay down the procedure of establishing Registered Vehicle Scrapping Facility (RVSF). Provisions will be applicable to all vehicles and their last registered owners, recyclers, Automotive Dismantling, Automobile collection centres and Scrapping & Recycling Facilities.

Provisions of the rules:

- As per rules, RVSF will be provided connectivity and access of the VAHAN database of vehicle registration with password protected user ID.
- RVSF will be authorized to make suitable entries for scrapping the vehicle and for issuing Certificate of Deposit & Certificate of Scrapping.
- State Government or Union Territory Governments will take into account the eligibility criteria while granting authorization to any RVSF.
- Ministry will set up a "Single Clearance Portal" to register or renew the registration of such facilities. Entire process will be completed within 60 days.
- Registration of RVSF will be valid for 10 years and can be renewed for 10 more years, at a time.

- RVSFs will also get the access of National Crime Records Bureau (NCRB) to check if any stolen vehicle was bought for scrapping.
- Vehicle registered in any state, can be scrapped at any of the registered facility in other states.

70. Right Livelihood Award 2021:

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- **Right Livelihood Award 2021** was conferred to Delhi-based environmental organisation “**Legal Initiative for Forest and Environment (LIFE)**”. This award is also known as “**Sweden’s alternative Nobel Prize**”.
- LIFE has received the award for its “grassroots approach to empower vulnerable communities in protecting their livelihoods and claiming their right for a clean environment.”

Other awardees include:

- Cameroonian women rights activist Marthe Wandou,
- Environmental activist from Russia, Vladimir Sliviyak and
- Indigenous rights defender from Canada, Freda Huson.
- About Right Livelihood Award
- Right Livelihood Award was established by Ole von Uexkull who happens to be the executive director of Right Livelihood. The award honours and supports people in solving global problems. It comprises of a cash prize of 1 million Swedish crowns and a long-term support that highlights and expands Laureates’ work.

How Awardees are shortlisted?

- Awardees are shortlisted by the jury of Stockholm-based Right Livelihood.
- LIFE received the Award for its innovative legal work of empowering communities to protect their resources following the “environmental democracy in India.” According to Right Livelihood, despite a robust environmental protection law framework in India, access to justice for those planning to protect remaining forests and biodiversity in India is often limited. Thus, to bridge this gap, LIFE was founded.

71. India: 1st Asian Country to launch a Plastics pact:

- WWF India, **Confederation of Indian Industry(CII)** join hands to develop platform to promote a circular system for plastics
- World-Wide Fund for Nature-India (WWF India) and the Confederation of Indian Industry (CII) have joined hands to develop a platform to promote a circular system for plastics. The new platform called, the ‘India Plastic Pact,’ was launched by British High Commissioner to India, Alexander Ellis, on Friday.
- “This will bring together prominent enterprises on a national level to make pledges toward the creation of a circular plastics system. The pact works to create a world where Plastic is respected and does not contaminate the environment,” a statement issued by WWF India said.

Plastic waste:

- India generates 9.46 million tonnes of plastic waste annually, of which 40 per cent is not collected; about half of all plastics produced in the country are used in packaging, most of it is **single use** in nature.
- Commitments made under the pact aim to keep plastic packaging in the economy and out of the natural environment. The statement mentioned **17 businesses including major FMCG brands**, manufacturers, retailers and recyclers have committed to the pact as founding members, and nine have joined as supporting organisations.
- The pact, like similar one, has time-bound targets for reducing, innovating and re-imagining plastic packaging. Targets to be achieved by **2030** include defining a list of unnecessary or

problematic plastic packaging and items and take measures to address them through redesign and innovation.

- About 100 per cent of plastic packaging to be reusable or recyclable, 50 per cent of plastic packaging to be effectively recycled and 25 per cent average recycled content across all plastic packaging.
- UK Research & Innovation (UKRI) and WRAP are the pact here. Plastics pacts in Europe, the Americas, Australia, and Africa get operational and technical support from WRAP, which also fully supports the pact in India.

72. Tamil Nadu to set up India's first Dugong Conservation Reserve:

- Government of Tamil Nadu recently announced its plan to set up India's first Dugong Conservation Reserve in the **Palk Bay** on the southeast coast.
- Dugong or sea cow is an endangered marine mammal. It is facing extinction because of habitat loss, sea pollution, and loss of seagrass.
- Dugong is found in Gulf of Mannar and at Palk Bay in Tamil Nadu.
- **Gulf of Mannar** is a shallow bay area between south eastern end of Tamil Nadu and western Sri Lanka.
- With the help of community participation, Government will also construct a Dugong Marine Conservation Reserve in the Gulf of Mannar and Palk Bay area to protect the species.
- Marine Conservation Reserve will be established over an area of 500km in Palk Bay.
- It is believed that, an estimated 200 individuals live in the Palk Bay and Gulf of Mannar area which would largely benefit from Tamil Nadu government's recent decision to establish conservation reserve.



About Dugong:

- **Dugong (Dugong dugon)** also called '**Sea Cow**' is one of the four surviving species in the Order Sirenia and it is the only existing species of herbivorous mammal that lives exclusively in the sea including in India.
- They are listed as **Vulnerable** on the **IUCN Red List** and are protected in India under **Schedule I** of the **Wild (Life) Protection Act, 1972**.
- According to a 2013 survey report of the **Zoological Survey of India (ZSI)**, there were only about 200 dugongs in the Gulf of Mannar in Tamil Nadu, the Andaman and Nicobar Islands and the Gulf of Kutch in Gujarat.
- Dugongs are an important part of the marine ecosystem and their depletion will have effects all the way up the food chain.

Threats:

- Dugongs graze on seagrass and the loss of seagrass beds due to ocean floor trawling is one of the most important factors behind decreasing dugong populations in many parts of the world.
- Trawling is a method of fishing that involves pulling a fishing net through the water behind one or more boats. It is harmful to the environment because it damages the seafloor, coral reefs and other marine animals.
- Human activities such as the destruction and modification of habitat, pollution, rampant illegal fishing activities, vessel strikes, unsustainable hunting or poaching and unplanned tourism are the main threats to dugongs.
- Dugong meat is consumed under the wrong impression that it cools down human body temperature.

73. Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes (1970-2019):

- Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes (1970-2019) was released on September 1, 2021.

Key Findings:

- According to the atlas, developed nations incurred the bulk of \$3.6tn in economic losses because of severe weather events in past five decades.
- High death tolls in poorer countries have been partly reduced by better evacuation.
- According to scientists of UN's world meteorological organisation, in past 50 years, number of weather-related disasters had increased fivefold across the globe.
- In this period, death toll of 115 people and more than \$200m was lost every day. The death toll was the result of climate change, more extreme weather and improved reporting.
- In this period, total losses amounted to \$3.6tn and 2m deaths.
- For instance, estimated cost of Hurricane Ida, fifth-largest hurricane to make landfall in US, could be about \$80bn.
- Three out of 10 world's costliest disasters occurred in 2017 alone namely- hurricanes Harvey (cost-\$96.9bn), Maria (cost-\$69.4bn) and Irma (cost-\$58.2bn).

Wider economic cost:

- As per catastrophe and risk modelling group AIR, wider economic cost comprises of an estimated hit to insurers of between \$17bn and \$25bn. This will cover the damage from wind & storm surge and it will pay out to repair cars, residential property, commercial as well as industrial property. However, it does not include insurance claims that will come from the heavy rains and flooding caused by Ida.

What has led to increase in frequency of extreme weather events?

- Frequency and severity of extreme weather events, including wildfires, across southern Europe, Siberia & the US and flooding in northern Europe, has increased due to global warming.

74. IUCN: 37% of sharks and rays threatened with extinction:

- According to a new red list by IUCN, world's sharks and rays have been witnessing declines in their populations since 2014 and are now threatened with extinction.
- New red list was released by IUCN at global conference with the aim of protecting dwindling species.
- It notes that, there are signs of hope as fishing quotas have allowed several tuna species to be put on their path to recovery.
- About 37% of sharks and rays across the world are considered endangered as of 2021. In 2014, this amounted to 33%.
- This upward trend was the result of overfishing, loss of habitat and climate change,
- Oceanic shark populations have also decreased by 71% since 1970.

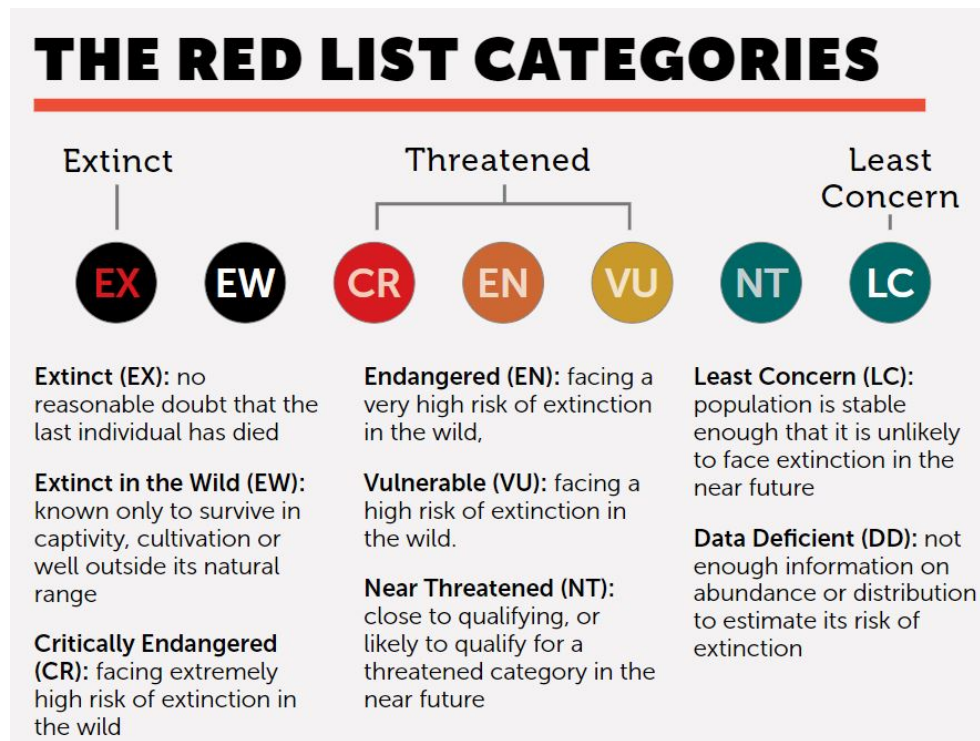
Can we recover their population?

- IUCN highlighted that, progress can be made towards reviving tuna populations and other species, if states and other actors take right actions.

IUCN Red List:

- The red list by IUCN reassesses hundreds of species each year. Out of 138,000 species that were tracked, more than 38,000 are threatened with extinction. Many of the planet's ecosystems are mainly strained by global warming, deforestation, pollution, habitat degradation and other threats.

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Declining Bird Population:

- More than half of the bird of prey species are reducing in population worldwide. 18 species are critically endangered. Warming temperatures and melting ice will reduce the emperor penguin colonies by 70 % by 2050 and 98% by 2100.

International Union for Conservation of Nature (IUCN):

- IUCN is an international organization that works in the field of nature conservation and sustainable use of natural resources. It is involved in data gathering and analysis, field projects research, advocacy, field projects, and education. It was established in 1948.

75. PRANA Portal:

- Recently, the Union Environment Minister launched a portal called PRANA.
- PRANA Portal will be used to track the progress of the National Clean Air Programme (NCAP) in order to comply with India's commitment to ensure clean air and blue skies to everybody.
- This portal was launched on the occasion of 'International Day of Clean Air for Blue Skies' in non-attainment cities (NAC).
- Non-attainment cities are those cities that failed to meet the National air quality standards in a five-year period.

- With India's efforts, 86 cities showed a better air quality in 2019 and it increased to 104 cities in 2020.
- India's target
- Environment ministry and Central Pollution Control Board (CPCB) seeks to achieve 20-30 percent reduction in particulate matter (PM10 as well as PM2.5) concentrations in India by 2024.

How India will achieve its target?

- In order to achieve the target, India has prepared and is implementing city-specific action plans to improve air quality in 132 NACs/Million Plus Cities. It targets city-specific air polluting sources like soil & road dust, vehicles, MSW burning, domestic fuel, construction material and industries.

About PRANA Portal:

- PRANA portal will help in tracking physical and financial status of city air action plan implementation. It will also disseminate information on air quality to the public.

India-Japan High Level Policy Dialogue:

- Indian Environment minister and Japanese Environment Minister Koizumi Shinjiro also held first ever India-Japan High level policy dialogue. They discussed issues related to air pollution, climate change, sustainable technologies & transport, marine litter, fluorocarbons and COP-26.
- India and Japan are also strengthening bilateral cooperation on circular economy & resource efficiency, green hydrogen, low carbon technology etc.

76. Leh to host first edition of Himalayan Film Festival:

- The First Himalayan Film Festival concluded with the screening of the internationally acclaimed film 'Shepherdess of the Glaciers' by renowned Ladakhi.
- It was a five-day event at Sindhu Sanskriti Kendra in Leh, Ladakh.
- Filmmakers from all the Himalayan states/UTs such as Ladakh, Jammu & Kashmir, Uttarakhand, Himachal Pradesh, Sikkim, Assam, Meghalaya, Manipur, Mizoram, Tripura, Arunachal Pradesh and Nagaland are eligible to take part in the contest.

The aim of the competition section is to:

- Recognize local talent in short and documentary film-making.
- Provide opportunities to connect to the sparsely located film-making community of the Himalayas, through networking and collaborative projects.
- Provide an opportunity to explore the works and perspectives of other filmmakers.
- To build an audience for the work of filmmakers.
- To develop the skill of film-making using minimal/efficient resources.
- Locating young and fresh talent in film-making in the Himalayan region of India.
- Centre-staging the filmmaking process and incentivizing local talent to pursue a career in filmmaking.

77. NITI Aayog-Byju's partnered to provide free education:

- Recently, the NITI Aayog has partnered with BYJU'S in a bid to provide free access to education to students in 112 Aspirational Districts in India.
- As part of the initiative, NITI Aayog will explore the application of edtech learning resources to enhance learning outcomes in the most underdeveloped districts across India.
- This project envisages for establishment of a dedicated working group, which in turn will help in creating a knowledge, innovation, and strategy support system. The team will also be monitoring and evaluate programme implementation in order to enable efficacy and ensure better scope of delivery.

Main components of the initiative:

- Collaboration between NITI Aayog and BYJU's to support the school students in the developmentally challenged districts have two main components:
- BYJU'S Career-Plus programme: This programme under Aakash+BYJU'S will help in providing high-quality test prep coaching to 3,000 meritorious students from classes 11 and 12 who aims to appear for NEET and JEE.
- Voluntary programme: Under the social impact initiative, education for all, students can opt for receiving scholastic content from BYJU's Learning App for three years. This programme is for school-going age children, classes 6-12.

How students will be selected?

- Students for the career plus programme will be selected by means of a pre-designed test. They will be provided teaching and content material, along with mentoring support & guidance. The initiative will combine the best of classroom as well as online learning. Thus, it will provide a hybrid model of education.

Aspirational Districts Programme:

- Prime Minister Narendra Modi rolled out the Aspirational Districts Programme was in January 2018. This programme aims to quickly and effectively transform 112 most under-developed districts across the country.
- The broad contours of the programme are **Convergence** (of Central & State Schemes), **Collaboration** (of Central, State level 'Prabhari' Officers & District Collectors), and **Competition** among districts through monthly delta ranking; all driven by a mass movement.

78. Switzerland legalises Same-sex Marriage:

- Recently, the voters in Switzerland decided to legalize same-sex marriage (on September 26, 2021). It makes Switzerland one of the last countries in Western Europe to do so.
- Apart from opening up the option of marriage to all couples, government also approved an amendment to Switzerland's marriage law which was put to voters in a referendum.
- This law also grants lesbian couples to get access to sperm banks as well as allows same-sex couples to adopt children.
- Under the amended law, same-sex couples will be able to have a civil wedding. They will be granted the same institutional and legal rights as heterosexual couples.
- They will be granted simplified naturalization for foreign partner.
- Law was approved through a referendum, in which polls predicted widespread approval for same-sex marriage in the country.
- The legislation change was accepted by 64.1 percent of voters. It also received strong support in urban as well as rural areas.
- Same-sex couples in Switzerland have been able to enter into a civil partnership since 2007. It grants them some legal rights. However, that was not equal to a marriage.

79. Elder Line 14567:

- In order to address the problems of elders in the context of the ongoing COVID pandemic, the Ministry of Social Justice has started state wise call centres in major states under the ELDERLINE project. The facility is already made operational in 5 major States of UP, MP, Rajasthan, TN and Karnataka. In Telangana, this facility has been working for more than a year.
- This line will extend support to senior citizens in the challenges and problems they face. Now, it has been opened by 17 states for their respective geographies, as of now.
- Elder Line will help senior citizens in providing free information and guidance on pension issues, legal issues, on field intervention in cases of abuse, emotional support, rescue and care for homeless senior citizens etc.

- It is expected that, India will have nearly 20% elderly population accounting for more than 300 million senior citizens by 2050. It is significant because many countries have a population less 300 million. Senior citizens are a basket of wisdom and untapped resource for overall economic and social growth. But this age group faces several mental, financial, emotional, legal and physical challenges. Thus, this helpline number was launched to extend them support.

Who operationalize Elder Line?

- Elder Line is a culmination of the initiative of Tata Trusts in collaboration with its partner, Vijayavahini Charitable Foundation. It was launched in collaboration with the Government of Telangana in Hyderabad in 2018, to help the elderlies there.
- Tata Trusts continues to engage in strategic philanthropy in order to create deep, wide & irreversible impact. Currently, Tata Trusts & NSE Foundation are working as technical partners and are jointly supporting the Ministry in operationalizing Elder Line.

80. 'PM POSHAN' to be continued in Schools:

- The Union Cabinet has approved the continuation of PM POSHAN scheme in Schools, a Centrally Sponsored National Scheme.
- PM POSHAN is a revamped version of the existing Mid-Day Meal scheme. Meals will now be extended to students studying in pre-primary levels or Bal Vatikas of government and government-aided primary schools, in addition to those already covered under the scheme.
- Much like the Mid-Day Meal Scheme, the government will provide one cooked hot meal in government and government-aided schools.

Budget:

- PM POSHAN has been launched for a period of five years, from 2021-22 to 2025-26, with a budget of Rs 1,30,794.90 crore. This includes Rs 54,061.73 crore as the Central government's share and Rs 31,733.17 crore as State governments' share. The Centre will also bear an additional cost of Rs 45,000 crore for food grains.
- It is expected to benefit 11.80 crore children studying in 11.20 lakh schools across the country.

How is the revamped scheme different?

- While the earlier scheme focused solely on providing nutritious meals, PM POSHAN will also monitor the nutritional levels of schoolchildren, among other things.
- A nutritional expert will be appointed in every school to ensure that BMI, haemoglobin and weight levels of the students are monitored, as per a report by The Print.
- Furthermore, special provisions for nutritional items will be made for children in districts that have a high prevalence of Anemia.
- The government is also considering developing nutrition gardens on school campuses with active participation by students.
- Under the aegis of the scheme, cooking competitions will be encouraged at all levels — right from the village to the national level-to promote ethnic cuisine and innovative menus based on locally available ingredients.

Implementation and auditing:

- Additionally, to support Vocal4Local and fulfil the objectives of the Atmanirbhar Bharat initiative, PM POSHAN will involve Farmer Producer Organisations (FPO) and Women Self Help Groups in the implementation of the scheme.

What is the Mid-Day Meal Scheme?

- The nationwide Mid-Day Meal Scheme was launched in 1995 by the Narasimha Rao government. In 2001, the Supreme Court ordered state governments to provide free lunches to students in all state-run elementary schools.

- The scheme was launched in order to increase school enrolment and improve the nutritional status of millions of undernourished children across the country.

81. Amazon India launches Kisan Store:

- Recently, Amazon India announced the launch of Kisan Store. The store was launched by Union Minister for Agriculture and Farmers Welfare, Narendra Singh Tomar.
- Amazon India launched Kisan Store with the aim of introducing machine learning technology for better produce and build a robust supply chain infrastructure.

About Kisan Store:

- Kisan Store is an online platform that enable farmers of India to get access of more than 8,000 agriculture inputs like farm tools & accessories, seeds, plant protection, nutrition etc.
- These products are listed by small and medium businesses (SMBs).
- Products will be available at competitive prices on Amazon India and will be delivered at the doorstep of farmers.
- These stores comprise of thousands of products listed from over 20 brands.
- Kisan store will be available in languages like Hindi, Telugu, Kannada, Tamil, and Malayalam.
- Hundreds of small and medium businesses sellers offer 8000+ products such as seeds, farm accessories plant protection, nutrition and more on Kisan store; Cash on Delivery, Net Banking, UPI, Amazon Pay, and Debit & Credit Cards as flexible payment options available.

Amazon Easy store:

- Amazon also opened up its network of more than 5,000 Amazon Easy stores for farmers to shop with the help of the store owners. Store owners will help the farmers to browse through the store and identify product they like. They will also help then in creating their Amazon accounts, place orders, and checkout to buy.

82. Vidyanjali 2.0:

- Recently, the Shiksha Parv was celebrated by the Ministry of Education (from 5th-17th September) to recognize the contributions of teachers and to take New Education Policy (NEP) 2020 a step forward.
- On this occasion, the Prime Minister launched Vidyanjali 2.0 Portal and several other initiatives in the education sector on September 7, 2021.
- For facilitating education volunteers, donors and CSR (Corporate Social Responsibility) contributors for school development.
- Vidyanjali Scheme is one of the innovative schemes that focus towards the improvement of literacy by offering volunteer teachers in government schools. It was launched in 2017.

83. Supreme Court: Employee can't insist on transfer to particular place:

- Recently, the Supreme Court has ruled that, an employee cannot insist on transfer to a particular place and only employer can shift the staff after considering requirement.
- The court observed this while dismissing a petition by a lecturer who challenged the October 2017 order of the Allahabad High Court.
- Allahabad high court had dismissed the plea filed by her which she had filed against rejection of her representation by the authority concerned for her transfer from Amroha to Gautam Buddha Nagar.
- In the case, a women was posted as a lecturer in Amroha district. She made a representation for her transfer in a college at Gautam Buddha Nagar. But it was rejected by the authority in September 2017.

- Her counsel argued in 2017 before the high court that she was working at Amroha for last four years as well as the government policy.

Allahabad court verdict:

- High court noted that, order passed by the authority concerned showed that the women had remained posted at a college in Gautam Buddha Nagar for 13 years from the date of initial appointment in December 2000 to August 2013.
- Thus, women's request for posting her again at the same institution was not justified.
- Court further noted that, petitioner was not entitled to be posted at a place where she had already worked for about 13 years.
- According to the court, in case women has completed the requisite number of years at the place of her present posting, she can request for her transfer to other places.

84. Govt to start Adarsh Gram Yojana in 36000 villages in India:

- As per the Union Tribal Affairs minister, the Pradhan Mantri Adarsh Gram Yojana will be started in 36000 villages of India.
- Under the scheme, villages having 50 percent tribal population would be given priority.
- This scheme would be started by Ministry of Tribal Affairs.
- Around 1700 tribal villages in Assam will be converted into model village under the scheme.
- Apart from model villages, 184 new Van Dhan Kendra will also be set up in Assam in order to benefit 60 thousand people.

Pradhan Mantri Adarsh Gram Yojana (PMAGY):

- PMAGY was launched with the aim of overall development of selected SC majority villages. The scheme seeks to provide the villages with all the necessary facilities in order to ensure that the disparity between SC and non-SC population is eliminated in terms of common socio-economic indicators.
- How its performance is monitored?
- Performance of the PMAGY is being monitored in terms of achievement of the targets that are listed in Village Development Plan (VDP) prepared for each village.

Who provides technical support?

- Under this scheme, technical resource support is provided by the "National Institute of Rural Development & Panchayati Raj (NIRD&PR)" at the national level.

Criteria of being Adarsh Village:

- In order to be declared as Adarsh village, village should have achieved minimum of three targets below, within three years:
 1. Elimination of poverty and reduction in its incidence by 50% within three years.
 2. 100% enrolment and retention of children at elementary stage.
 3. Reduction of infant mortality rate and maternal mortality rate.
 4. Villages should be 100 % open defecation free.
 5. Access to safe drinking water facility on sustainable basis.
 6. 100% institutional deliveries for pregnant women
 7. Full immunisation of children
 8. All-weather road connectivity to the village
 9. 100% registration of deaths and births
 10. No child marriages and child labour
 11. No public consumption of liquor & intoxicating substances
 12. 100% allotment of Pradhan Mantri Gramin Awaas Yojana houses.

85. 'Ek Pahal Campaign' launched for Justice delivery at doorstep:

- Recently, the Ministry of Law and Justice has launched a Pan-India Special Campaign called “Ek Pahal Drive” for Justice Delivery at doorstep on September 17, 2021.
- The Ek Pahal campaign was open across the country from 17th September till 2nd October. Tele-Law means the use of communications and information technology for the delivery of legal information and advice.

Page|56 **Tele law:**

- Tele-Law means the use of communications and information technology for the delivery of legal information and advice. Department of Justice has partnered with National Legal Service Authority (NALSA) and CSC e-Governance Service India Limited for mainstreaming legal aid to the marginalised communities through Common Services Center (CSC).
- Department of Justice is implementing the Tele-Law programme in the Aspirational Districts that enables common man to receive legal advice as first step towards access to justice.
- The concept of Tele-Law is to facilitate delivery of legal advice through a panel of lawyers stationed at the state Legal Services Authorities (SALSA) and CSC. The project initiates to connect citizens with lawyers through video conferencing facilities by the Para-Legal Volunteers stationed at identified 1800 panchayat.

86. IAS & IPS officers allowed to retain gifts from Foreign Dignitaries:

- The Union Government has amended a 50-year-old rule and allowed IAS, IPS and IFoS officers to retain gifts they receive from foreign dignitaries while being members of the Indian delegation.
- As per existing rules, these officers were allowed to accept gifts from their near relatives or from personal friends having no official dealings with them, on the occasions like weddings, funerals, anniversaries, and religious functions.
- However, they are required to make a report to the government if the value of such gift is more than Rs 25,000.
- Gifts comprises of free transport, free lodging, free boarding, or any other service or pecuniary advantage provided by a person other than near relative or personal friend having no official dealings. It does not include any casual meal, casual lift or other social hospitality.

All India service (conduct) Rules, 1968:

- As per this rule, no member of the service can accept any gift without government’s sanctions if the value of those gift exceeds Rs 5,000.
- This rule is applicable to officers of Indian Administrative Service (IAS), Indian Police Service (IPS) as well as Indian Forest Service (IFoS).
- Member of the service must avoid accepting lavish hospitality or frequent hospitality from persons involved in official dealings or industrial & commercial firms or other organisations.

Amended Rule:

- A new subsection has been added to Section 11 of the All-India Service (Conduct) Rules, 1968. According to it, a member of the service may receive and retain gifts from foreign dignitaries as per the provisions of the Foreign Contribution (Acceptance or Retention of Gifts or Presentations) Rules, 2012.

87. PM Modi inaugurates Sardardham Bhavan at Ahmedabad:

- Prime Minister Narendra Modi inaugurated the state of art Sardardham Bhavan at Ahmedabad through video conferencing on September 11, 2021. Sardardham Bhavan has been developed at the Vaishnodevi circle in Ahmedabad, Gujarat by Patidar Samaj.
- It comprises of modern facilities such as library, hostel, career guidance & training centre for boys as well as girls coming from rural areas and a multipurpose auditorium.

- Sardardham Bhavan will empower India's future generations as well as inspire them to lead their lives by following the principles followed by Sardar Patel in his life. These youngsters will play decisive roles by the time India completed 100 years of independence in 2047.

Mission of the Sardardham:

- Social transformation in the Nation Building
- To socially consolidate and ensure unity & fraternity
- Social, Educational & economic development of the community.

What are the goals of Sardardham?

- To recognise Patidars from Village to Global Level.
- Social and Economic Development of needy Patidar's Family
- Women Empowerment by providing them education, self-employment and entrepreneurship.
- Elimination of health-hazard habit such as Tobacco, liquors, Gutaka etc.
- To creating Hostel Facilities for 2000 Boys and Girls in the first phase which will be increased to 8000 in the Second Phase.

88. Mahakavi Day: Subramania Bharati's death anniversary:

- To commemorate the death anniversary of freedom fighter Subramania Bharati, Tamil Nadu government has declared September 11 as 'Mahakavi' Day. Bharati's innovative contributions to Tamil poetry and prose are considered to have sparked a Renaissance in 20th CE Tamil literature.
- Born on 11th December 1882 in Ettayapuram village in **Tirunelveli** District of Tamil Nadu, Subramania Bharati was a rare child prodigy. At the tender age of seven, he started writing poems in Tamil.
- When he was barely eleven, he left the scholars and court poets of the Ettayapuram Durbar dumbfounded with his chaste and spontaneous poetry and thereafter came to be known as Bharati.
- Mahakavi Bharati's poetry heralded a new era in Tamil literature. Drawing from the rich cultural heritage of India, he used new forms and expressions along with simple words, vernacular idiom and lyrical rhythms.
- During the dark days of colonial rule, Mahakavi rose like a Sun with his powerful message of nationalism to dispel the darkness that had engulfed our nation. "Kannan Pattu" "Nilavum Vanminum Katrum" "Panchali Sabatam" "Kuyil Pattu" are some of the best examples of Bharathi's great poetry.

89. Raja Mahendra Pratap Singh State University:

- Prime Minister Narendra Modi will lay the foundation stone for the Raja Mahendra Pratap Singh State University in Aligarh, Uttar Pradesh on September 13, 2021
- This university is being established by the State Government in the honour of great freedom fighter, social reformer and educationist Raja Mahendra Pratap Singh.
- Raja Mahendra Pratap Singh was an Indian freedom fighter, writer, journalist, revolutionary and President in the Provisional Government of India that served as the Indian Government in exile in 1915 during World War I from Kaabul. He also formed the Executive Board of India in Japan in 1940. He was the part of Balkan War in 1911. He is also known as "Aryan Peshwa".

90. Swarnim Vijay Varsh Victory Flame:

- Recently, the Swarnim Vijay Mashaal, touring the Country to mark 50 glorious years of victory over Pakistan during 1971 Indo-Pak War, arrived at Dahung today.
- The Mashaal was received at Sessa, Arunachal Pradesh with full military honours.

- During escort of the Mashaal to Dahung, the cavalcade was ushered by the locals with enthusiasm and deep sense of gratitude towards the gallant soldiers who fought and laid down their lives during the 1971 War.
- The Victory Flame shall tour Rupa, Bomdi La and Tawang during the coming days and will remain with the Ball of Fire Division till 23 Sep 21 for participation in various events planned to commemorate the 50 years of war with Pakistan and liberation of Bangladesh.

91. METAVERSE:

- The metaverse is having a moment. Coined in Snow Crash, Neal Stephenson's 1992 sci-fi novel, the term refers to a convergence of physical, augmented, and virtual reality in a shared online space.
- Facebook Inc is set to invest \$50 million to partner with organizations in order to build metaverse, which is a digital world where people can use different devices to communicate and move in a virtual environment.
- Facebook is the world's largest social network that has invested heavily in virtual reality and augmented reality.
- It has also invested in developing hardware like Oculus VR headsets and is working on AR glasses and wristband technologies.
- New XR Programs and Research Fund will invest the money globally in two years in order to build inclusive and empowering metaverse technologies.

How Metaverse will work responsibly?

- To develop the Metaverse, Facebook will work with experts in government, industry and academia in order to think through issues and opportunities in the metaverse.
- Success of Metaverse depends on building robust interoperability across services, only then experiences of different companies can work together.
- Facebook will also involve human rights and civil rights communities to ensure that these technologies are built inclusive and empowering way.
- Facebook announced XR Programs and Research Fund which is a two-year \$50 million investment in programs & external research. This programme will help in building Metaverse. Through this fund, Facebook will collaborate with industry partners, civil rights groups, non-profits & academic institutions and governments to determine how metaverse can be built responsibly.

92. Australia: Fossil of Oldest Koala-hunting eagle discovered:

- Recently, scientists have excavated the remains of an ancient eagle near a barren, dried-up lake in Southern Australia.
- This majestic bird is believed to be 25 million years old when the land of southern Australia was teemed with lush forests.
- For eagle, this part of the land was teemed with helpless prey.
- It was found near Australia's Lake Pinpa, which is now-deserted.
- Discovery includes a whopping 63 well-kept fossils which also comprises the entirety of the eagle's skeleton.
- It is rare to find even one bone from a fossil eagle. Thus, finding most of the skeleton becomes significant. These plentiful fossils are a rare find and they belong to one the of the oldest & mightiest eagle-like raptors across the world.

Eagle:

- Eagles stand at the apex of the food chain, with preying on squirrels, prairie dogs and rabbits. They use sky as their safe haven and are always fewer in number. As a result, they are infrequently preserved as fossils.

Wedge-tailed eagle:

- Scientifically known as *Aquila audax*, Wedge-tailed eagle are the largest bird of prey in Australia. They are also found in southern New Guinea. They have a long, fairly broad wings and fully feathered legs. They are one among 12 species of large, dark-coloured booted eagles in the genus *Aquila*. The prey have a wingspan of up to 2.84 m and length of up to 1.06 m.

What is Fossil?

- Fossils are the preserved remains, or traces of remains, of ancient organisms. Fossils are not the remains of the organism itself! They are rocks.
- The word fossil comes from the Latin word *fossus*, meaning "having been dug up." Fossils are often found in rock formations deep in the earth.
- **Fossilization** is the process of remains becoming fossils. Fossilization is rare. Most organisms decompose fairly quickly after they die.
- A fossil can preserve an entire organism or just part of one. Bones, shells, feathers, and leaves can all become fossils.
- Fossils can be very large or very small. Microfossils are only visible with a microscope. Bacteria and pollen are microfossils. Macrofossils can be several meters long and weigh several tons. Macrofossils can be petrified trees or dinosaur bones.
- Preserved remains become fossils if they reach an age of about 10,000 years. Fossils can come from the Archeaeaeon Eon (which began almost 4 billion years ago) all the way up to the Holocene Epoch (which continues today). The fossilized teeth of woolly mammoths are some of our most "recent" fossils. Some of the oldest fossils are those of ancient algae that lived in the ocean more than 3 billion years ago.

Fossil Fuels:

- Coal, petroleum and natural gas are called **fossil fuels**, as they are the remains of prehistoric plants, animals and microscopic organisms that lived millions of year ago. These remain under the effect of intense heat and pressure underneath the earth's crust over long geological time and got transformed into fossil fuels.
- For example, the gas cylinder which you see in your kitchen or coal you burn was once the sunlight captured by phototrops. During the Carboniferous period 275-350 million years ago, conditions in the world were suitable for formation of large deposits of fossil fuels. Table 28.1 shows the estimates of the main fossil fuel reserves.

93. Big John- Biggest Triceratops to be auctioned:

- Recently, a 66-million-years old and the largest triceratops skeleton ever unearthed (Big John) at eight metres long, was sold at auction to a US collector on Thursday for a gargantuan 6.6 million euros.
- The final price reached at the Drouot auction house in Paris -5.5 million euros before fees - was well above the expected 1.2 to 1.5-million-euro sale price.
- Big John's skeleton is 60 percent complete and was unearthed in South Dakota in the United States in 2014 and put together by specialists in Italy.

About the Triceratops:

- Tri-horned triceratops inhabited North America during Cretaceous period some 67 million to 65 million years ago. Big John lived on an island continent called Laramidia, in South Dakota.
- Island continent Laramidia was formed during the Cretaceous when a shallow sea had flooded the central region of North America.

When its fossil was discovered?

- Paleontologist Walter W. Stein had discovered the fossil of triceratops in 2014. He excavated the skeleton from Hell Creek Formation which is an ancient flood plain and a rich fossil site spanning over Montana, North Dakota, South Dakota and Wyoming. Big John died and was covered by thick mud as a result it got fossilized.

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94. India-ADB deal to improve urban water supply:

- The loan will also strengthen capacities of urban local bodies (ULBs) in order to improve service delivery in four towns of Jharkhand.
- This project is in line with the priority of Jharkhand Government to improve urban services in state.
- It will ensure continuous, treated piped water supply in Ranchi and other three towns namely Jhumri Telaiya, Hussainabad, and Medininagar. These towns are located in economically and socially backward areas.
- In order to ensure sustainability, project will strengthen the capacity of Urban Local Bodies (ULBs) by developing an asset management strategy and training on design and implementation of urban projects.
- It will also introduce innovative technologies in order to minimize water losses in water treatment and distribution. It will also use a supervisory control and data acquisition system for water supply operation and geographic information system-based asset management in the state's capital city, Ranchi.

95. SpaceX launched 4 amateurs on private Earth-circling trip:

- Recently, the American aerospace company **SpaceX** made history by launching the **Inspiration 4 mission** with the world's first all-civilian crew into space.
- **SpaceX** first ever "Earth-circling trip" was started onboarding two contest winners, a health care worker as well as their rich sponsor. This is the most ambitious leap in space tourism.
- This was the first time any rocket blasted off toward orbit with an all-amateur crew and no professional astronauts.
- Two men and two women are looking forward to spend three days on Dragon capsule circling the world.
- They will be circling the Earth on an unusually high orbit at 160 km higher than the International Space Station.
- Their flight will splash down off the Florida coast by September 19th
- **Dragon capsule** aimed for an altitude of 575 km, beyond the Hubble Space Telescope.

Who is leading the flight?

- Jared Isaacman is leading the flight, who made his fortune with the payment-processing company. Isaacman is the third billionaire to launch so far, following the brief space-skimming flights of Virgin Galactic's Richard Branson and Blue Origin's Jeff Bezos in July 2021.
- Apart from this, Arceneaux is flying who is set to become the youngest American in space as well as the first person with a prosthesis, a titanium rod in her left leg, to travel space.

Space Exploration Technologies Corp. (SpaceX):

- SpaceX is an American aerospace manufacturer, space transportation services & communications company.
- It is headquartered in Hawthorne, California. The company was founded in 2002 by Elon Musk with the objective of reducing space transportation costs and enable the colonization of Mars.
- SpaceX manufactures Falcon 9 and Falcon Heavy launch vehicles, rocket engines, crew spacecraft, Dragon cargo, and Starlink communications satellites.

96. Hungary: Statue of Bitcoin founder Satoshi Nakamoto unveiled:

- Recently, a bronze statue paying homage to the anonymous creator of Bitcoin has been unveiled in Hungary.
- Satoshi Nakamoto, the pseudonymous, was unveiled on September 17 in a business park near the Danube river in Budapest, Hungary. The imposing statue pays tribute to the anonymous creator of the world's first cryptocurrency .
- The bust of the bronze statue is placed on top of the engraved stone plinth, bearing the name of Satoshi Nakamoto, whose true identity is hitherto unknown.
- The creators of the statue, Reka Gargrely and Tamas Gilly, succeeded in the challenge of depicting a human form of a mysterious and unknown person.

What is Bitcoin?

- Bitcoin is a consensus network that enables a new payment system and a completely digital money. It is the first decentralized peer-to-peer payment network that is powered by its users with no central authority or middlemen.
- From a user perspective, Bitcoin is pretty much like cash for the Internet. Bitcoin can also be seen as the most prominent triple entry bookkeeping system in existence.

Who created Bitcoin?

- Bitcoin is the first implementation of a concept called "cryptocurrency", which was first described in 1998 by Wei Dai on the cypherpunks mailing list, suggesting the idea of a new form of money that uses cryptography to control its creation and transactions, rather than a central authority.
- The first Bitcoin specification and proof of concept was published in 2009 in a cryptography mailing list by Satoshi Nakamoto. Satoshi left the project in late 2010 without revealing much about himself. The community has since grown exponentially with many developers working on Bitcoin.

Who controls the Bitcoin network?

- Nobody owns the Bitcoin network much like no one owns the technology behind email. Bitcoin is controlled by all Bitcoin users around the world. While developers are improving the software, they can't force a change in the Bitcoin protocol because all users are free to choose what software and version they use. In order to stay compatible with each other, all users need to use software complying with the same rules.
- Bitcoin can only work correctly with a complete consensus among all users. Therefore, all users and developers have a strong incentive to protect this consensus.

97. India to become trans fat-free by 2022:

- As per Food Safety and Standards Authority of India (FSSAI) study, India is all set and is on the right track to become industrial trans fat-free by 2022.
- In India, only 1.34 percent of the newly tested processed food samples shows more than the permissible levels of ingredients.
- FSSAI cited pan-India survey results and dismiss the perception of excessive use of industrial trans fats in processed food products.
- India has mandated to reduce the limit of industrially produced trans fats to 2 per cent in order make India free from the industrially produced trans fats by 2022, one year ahead of the WHO guidelines.
- To test compliance by the industry, the FSSAI collected 6,245 samples of processed foods, in association with the Quality Council of India. Samples were collected from six predefined categories in 419 cities. As per survey,

1. 34% of 6,000 processed food samples were high in fats
2. 3% of packaged food item samples comprises of over 2% trans fat

Risk associated with Trans fats:

- Trans fats are associated with increased risk of heart attacks and death from coronary heart disease. As per the World Health Organisation (WHO), approximately 5.4 lakh deaths take place each year globally because of intake of industrially produced trans fatty acids. The WHO has also called for global elimination of trans fats by 2023.

98. Trojan posing as I-T refund attacking Android users:

- According to India's federal cyber security agency, **Indian Computer Emergency Response Team**, a banking Trojan malware has been detected in Indian cyberspace. This trojan is lurking to attack bank customers using Android phones.
- The Trojan malware has already targeted customers of more than 27 public and private sector banks.
- The phishing malware is posing as an "income tax refund". It can jeopardise the privacy of sensitive customer data and led to a large-scale attacks and financial frauds.
- Phishing is a social engineering computer virus attack to steal personal data.
- In the first instance, user receives an SMS comprising of a link to a phishing website which is similar to the website of Income Tax Department. On the website, users are asked to enter personal information, download and install the malicious APK file to complete the required verification. If user does not enter any information on the website, same screen with the form is displayed in Android application where users are asked to fill in to proceed.
- Data that are required to be filled includes full name, address, date of birth, mobile number, email address, PAN, Aadhaar number and financial details like account number, CIF number, IFS code, debit card number, expiry date, CVV and PIN.
- Once the details are entered by the user, application states that there is a refund amount that could be transferred to the bank account of user. When the user enters amount and clicks transfer, application shows an error and demonstrates a fake update screen. When the screen for installing update is shown, Trojan sends user's details to the attacker's machine, in the backend.

Indian Computer Emergency Response Team:

- It is an organisation of the Ministry of Electronics and Information Technology, Government of India, with the objective of securing Indian cyberspace.
- It is the nodal agency which deals with cybersecurity threats like hacking and phishing.
- It collects, analyses and disseminates information on cyber incidents, and also issues alert on cybersecurity incidents.
- CERT-IN provides Incident Prevention and Response Services as well as Security Quality Management Services.

99. Study: Covid can cause Delirium:

- A study of 150 patients hospitalised for Covid in the US at the beginning of the pandemic found that 73 per cent had delirium, a serious disturbance in mental state wherein a person is confused, agitated and unable to think clearly.
- The study, published in the journal BMJ Open, found that patients with delirium tended to be sicker, with more comorbidities like hypertension and diabetes, and appeared to have more severe Covid-related illness.
- Symptoms of delirium and dementia can be similar. Signs and symptoms of delirium usually starts over a few hours or a few days. Symptoms often fluctuate throughout the day. There may

be periods of no symptoms as well. Symptoms gets worse during the night. Some of the major signs and symptoms include:

1. Inability to stay focused on single topic or to switch topics
2. Getting stuck on an idea rather than responding
3. Being easily distracted by unimportant things
4. Causes of Delirium

Possible causes of Delirium include:

- Certain medications or drug toxicity
- Alcohol or drug intoxication
- Medical condition, like stroke, heart attack, lung or liver disease,
- Metabolic imbalances, low sodium or low calcium
- Malnutrition or dehydration

100. CSIR-CMERI Solar DC Cooking System:

- Recently, CSIR-CMERI has handed over the “CSIR-CMERI developed Solar DC Cooking System” to Asansol Braille Academy in West Bengal on September 22, 2021.
- It is a Solar Energy based Cooking System which consists of solar PV panel, charge controller, battery bank and cooking oven. The technology provides a Clean Cooking Environment, Inverter-Less Direct Operation, Fast and Uniform Heating and a potential to save 1 ton Carbon Dioxide emissions year/household.
- Solar DC cooking System will help in curbing the Carbon Dioxide emissions, because even LPG usage emits Carbon Dioxide. Widespread usage of the System will also play a critical role in achieving the target of 200 GW of Solar energy.
- The Technology after reaching to the market will cost around Rs 65,000 to Rs 70,000.
- Central Mechanical Engineering Research Institute (CSIR-CMERI) is a public engineering research and development institution located in Durgapur, West Bengal. It is a constituent laboratory of Indian Council of Scientific and Industrial Research (CSIR). It was founded in February 1958, to develop national mechanical engineering technology, in a bid to help Indian industries.

101. Akash Prime: New version of Akash missile flight-tested:

- Recently, the Defence Research and Development Organisation (DRDO) conducted the maiden flight test of the new version of Akash Missile — Akash Prime. This comes months after the maiden test of another Akash version, Akash-NG (New Generation), in January.
- Akash surface to air missile (SAM) has been developed as a part of the Integrated Guided Missile Development Programme of DRDO.
- Named after the original Sanskrit term for sky or space, Akash is primarily a Short Range Surface to Air Missile built to provide air defence cover to the vulnerable areas.
- The Akash weapon system can simultaneously engage multiple targets in group mode or autonomous mode. It has built-in Electronic Counter-Counter Measures (ECCM) features, which means that it has mechanisms on-board that can counter the electronic systems that deceive the detection systems.
- The entire weapon system has been configured on a mobile platform.
- A full Akash missile system comprises a launcher, set of missiles, a control centre, an built-in mission guidance system and a C4I (command, control communication and intelligence) centres and supporting ground equipment along with a radar named Rajendra which accompanies each of the missile batteries.
- The initial version of the Akash has an operational range of 27-30 km and a flight altitude of around 18 km.

- The Akash Prime has the same range as that of the earlier version but has a crucial new addition-that of an indigenous active Radio Frequency (RF) seeker for improved accuracy to hit aerial targets.

102. Dark Energy:

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- Recently, an international team of researchers directly detected the dark energy with the help of advanced technologies and new experiments.
- Dark energy is a mysterious form of energy. This energy has intrigued physicists as well as astronomers for decades.
- Dark energy makes up about 68% of the universe. 27% of the universe is made up of dark matter while planets, moons & massive galaxies make up only 5% of the universe. Dark matter attracts & holds galaxies together on the other hand, dark energy repels & causes the expansion of universe.
- While conducting the XENON1T experiment, researchers reported an unexpected signal. There was some background noise and the electrons in XENON1T move a bit on their own even with no dark matter or dark energy around due to the noise. This excess was probably caused by the dark energy.
- As per researchers, upcoming upgrades to the XENON1T experiment and similar experiments like LUX-Zeplin could help in detecting the dark energy directly.

103. National Action Plan for dog Mediated Rabies Elimination by 2030 (NAPRE):

- Recently, the Union Government (on the occasion of World Rabies Day-28 September) launched a national action plan NAPRE for the elimination of dog mediated rabies by 2030.
- On the occasion, ministers also launched the “Joint Inter-Ministerial Declaration Support Statement” in order to eliminate of dog-mediated rabies from India by 2030 following the approach of one health.
- Government is now focusing on taking steps for reducing health risks caused by animals, due to the rapid increase in animal-induced diseases like Covid-19.

National Action Plan for dog Mediated Rabies Elimination (NAPRE):

- The NAPRE was drafted by the National Centre for Disease Control (NCDC) in association with the Ministry of Fisheries, Animal Husbandry, and Dairying. Its approach for elimination of rabies is based on recommendations of several international agencies WHO and the Global Alliance of Rabies Control (GARC). It was prepared on the basis of 5 major pillars- political will, intersectoral planning, sustained funding, community planning, coordination & review, and operational research.
- Rabies is a virus that is transferred through animals that give birth to live young (mammals).
- Once it enters the body it attaches to a nerve, multiplies, and travels through the central nervous system up to the brain.
- The first symptoms of rabies are often very vague (headaches, high temperature, depression, flu-like symptoms) and it can be easy to mistake them for other types of infection. Once the virus reaches the brain, the fatal symptoms start, and by then it is too late and there is no cure.
- There are two types of rabies;
- **Furious rabies** – aggressive behaviours, including thrashing and biting, hallucinations and delusions, very high temperature and sweating, hydrophobia, excessive salivation and insomnia.
- Paralytic rabies – muscle weakness, loss of sensation, and paralysis.
- Rabies is a fatal disease, but it is 100% preventable if treated straight away. If it goes untreated it will lead to the person falling into a coma and eventually dying from heart or lung failure.

- Rabies is transmitted through the saliva of an infected animal, and can be transferred to humans through:
 1. Biting
 2. Licking—saliva on open wounds
 3. Scratching—anything that causes the skin to become red and raised

104. DRDO hands over MRSAM System to IAF:

- Recently, the Defence Research and Development Organisation (DRDO) has handed over the first deliverable Firing Unit (FU) of Medium Range Surface to Air Missile (MRSAM) System to Indian Air Force (IAF) on September 9, 2021.
- Firing unit of MRSAM comprises of Missiles, Mobile Launcher Systems (MLS), Combat Management System (CMS), Advanced Long-Range Radar, Reloader Vehicle (RV), Mobile Power System (MPS), Radar Power System (RPS), and Field Service Vehicle (FSV).
- Handing over of the system to IAF is a giant leap towards becoming “Aatmanirbhar Bharat” and it will be a game changer in the air-defence-system.

Medium-Range Surface-to-Air Missile (MRSAM):

- MRSAM is an advanced network centric combat Air Defence System. It was jointly developed by DRDO and Israel Aerospace Industries (IAI) in collaboration with Indian industry consisting of private and public sectors as well as MSMEs. It is a surface-to-air-missile, 4.5m in length. Contract for MRSAM programme was signed in February 2009. Under the contract, IAF was to buy 450 MRSAMs and 18 firing units at the value of \$2bn.
- The MRSAM system provides point and area air defence for ground assets against threats like fighter aircraft, helicopters, UAVs, sub-sonic & supersonic cruise missiles guided & unguided munitions, etc. This system is capable of engaging multiple targets at ranges up to 70 kms in severe saturation cases. It is powered by indigenously developed rocket motor and control system which helps in achieving high manoeuvrability during the terminal phase.

105. IISc-ISRO develop device to conduct microbial experiments in outer space:

- Researchers from the Indian Institute of Science (IISc) and Indian Space Research Organisation (ISRO) have developed device to conduct microbial experiments in outer space.
- This modular, self-contained device can be used to cultivate microorganisms which in turn, enable scientists to carry out biological experiments even in outer space.
- This study was published in Acta Astronautica. Researchers showed how this device can be used to activate and track the growth of a bacterium called *Sporosarcina pasteurii* for several days with minimal involvement of human.
- This understanding of how these microbes behave in extreme environments will provide valuable insights for human space missions like ‘Gaganyaan’ that is set to be launched in 2022.
- The new device uses a combination of Light Emitting Diode (LED) and photodiode sensor, which track the bacterial growth by measuring optical density or scattering of light. It is similar to spectrophotometers used in the lab. It also comprises of separate compartments for different experiments. Each compartment or ‘cassette’ have chamber where bacteria and nutrient medium can be mixed to kickstart growth.
- Data from each cassette is collected and stored separately. Three cassettes are clubbed into single cartridge, which consumes less than 1 watt of power.

106. Cabinet approves Russia-India pact for cooperation in geosciences:

- Recently, the Union Cabinet has approved the Memorandum of Understanding on cooperation in field of Geosciences between the Joint Stock Company Rosgeologia, Russia and the Geological Survey of India (GSI), India.
- A delegation of ROSGEO held meeting with Ministry of Mines and Geological Survey of India (GSI) in 2020 to discuss the perspectives of Cooperation in exploration works in New Delhi. During the meeting MoU was proposed to be signed between GSI and ROSGEO. Accordingly, GSI finalized the MoU in consultation with ROSGEO.
- Joint Stock Company Rosgeologia (ROSGEO) is the largest geological State holding company of Russian Federation. The company has a developed production and technical capabilities, high professional competences as well as a unique scope of accumulated geological information. It performs all kinds of geological prospecting and exploration activities for mineral resources of all types. It also conducts estimation of the reserves and commissioning of fields into operation.

Objective of MoU:

- MoU was signed with the objective of extending mutual cooperation for technological collaboration for exploration of:
 1. Deep-seated & concealed mineral deposit
 2. Analysis & interpretation of aero-geophysical data
 3. PGE & REE Exploration & Research
 4. Joint development of Indian Geoscience Data repository with Russian Information Technology
 5. Exchange of technology & knowledge with respect to drilling, sampling and laboratory analysis to achieve data accuracy and cost optimization
 6. Training and capacity building of scientific personnel.

What is geoscience?

- Geoscience (also called Earth Science) is the study of Earth. Geoscience includes so much more than rocks and volcanoes, it studies the processes that form and shape Earth's surface, the natural resources we use, and how water and ecosystems are interconnected.
- Geoscience uses tools and techniques from other science fields as well, such as chemistry, physics, biology, and mathematics.

107. Chandrayaan-2 spacecraft completes 9,000 orbits around moon:

- India's Chandrayaan-2 spacecraft has completed more than 9,000 orbits around the Moon. Imaging and other scientific instruments on the aircraft have been providing excellent useful data since then.
- According to Chairman of ISRO, K Sivan, Chandrayaan-2 comprises of eight payloads and are conducting remote sensing and in-situ observations of the Moon at 100 km altitude from the lunar surface.
- On the occasion, K Sivan also released data product and science documents besides the data from Chandrayaan-2 orbiter payloads.
- Science data are being made available to academia and institutes in order to analyse them. It will also help in bringing more science from Chandrayaan-2 mission.
- Chandrayaan-2 Mission is the second lunar exploration mission by the Indian Space Research Organisation (ISRO), after Chandrayaan-1. It comprises of indigenously developed lunar orbiter, Vikram lander and Pragyan lunar rover. Mission was launched with the objective of mapping and study the variations in lunar surface composition, location and abundance of lunar water.
- Chandrayaan-2 was launched to the Moon on July 22, 2019 by a GSLV Mark III-M1. It reached to the Moon's orbit on August 20, 2019.

- It started the orbital positioning manoeuvres to land the Vikram lander. The lander and rover were scheduled to land on near side of the Moon, in the south polar region and conduct research for one lunar day. However, lander crashed after deviating from its intended trajectory.
- Its successful soft landing would have made India the fourth country to do so following the successful launch of Luna 9 by Soviet Union, Surveyor 1 by United States and Chang'e 3 by China.

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