



Key Highlights

- **Bharat Ratna**
- **Combating Genocide & ICJ**
- **Sustainable Energy Partnership**
- **AI & Employment**
- **Organized Crimes**
- **PM Suryodaya Yojana**
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Brain Boosters

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- **Phytocannabinoids**
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Message



Vinay Singh
Founder
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Current Affairs has an important role in the examinations conducted by Union Public Service Commission and State Public Service Commissions. It is necessary for the candidate to have knowledge of relevant information on issues of national and international importance. Perfect 7 Magazine is being presented fortnightly to the students to fulfill this requirement. Preparation of civil services exam is only completed when candidates have holistic knowledge and analysis of the dynamic nature of the current affairs. 'Perfect7' keeps this vision and approach and understands the multidimensional need of students at the content level, so this magazine has presented the current affairs with relevant issues of general studies. Keeping in mind the needs of mains exam, current articles on 7 burning issues, Ethics Case Studies, Biographies of important personalities, coverage of most useful topics of various sections of General Studies and the most important current affairs issues are being covered for Preliminary Examination in which emphasis is being given on national, international, environment, ecology, art and culture, science and technology, economic issues.

Brain boosters with 7 themes based graphics are being presented in a concise form to enhance the conceptual understanding of the students. Apart from this, updated information on Global Initiatives, Global Institutions, Structure of Organizations, Functioning, Important Reports, and Indices will be included in this magazine, which is asked prominently in the Civil Services Examination. To give emphasis on facts and analysis, keeping in view the trends of new nature of questions in Preliminary and Main Examination of Civil Services, an inclusive magazine is being provided to the students so that they can give the right direction to their preparation by understanding the new requirements of Civil Services Examination. Columns have been included in the format of the magazine keeping in mind the factual needs of the candidates, mental development, developing writing technique etc. Along with this, we have been introducing new segments according to the changing needs of the candidates and these initiatives will continue in future also. Hope this issue will prove useful for all of you. Your suggestions are always welcome.

Best wishes.



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Pharmaceutical Sector in India: Challenges and Solutions

The Government of India has implemented stringent control measures to ensure quality in the pharmaceutical industry. Inspection regarding does and don'ts is necessary to safeguard drug manufacturing and conserve human resources. Elevating pharmaceutical industry standards is deemed necessary for the betterment of health protection and business, addressing various perspectives and ensuring a comprehensive approach to quality assurance.

Recognizing the importance of this, the government is now focusing on implementing Good Manufacturing Practices. This initiative encompasses pharmaceutical quality systems, quality risk management, product quality review, equipment qualification and validation, change control management, self-inspection, quality audit teams, and supplier audit and approval.

What are Good Manufacturing Practices (GMP)?

- Good Manufacturing Practices are mandatory standards that ensure product quality through controls over materials, methods, machines, processes, personnel, facilities, and environments.
- The Government of India has recently mandated strict adherence to GMP for pharmaceutical companies. These rules, aimed at ensuring quality control across various aspects like material, machinery, processes, employees, and facilities, require all pharma companies to comply with revised GMP within the next 6 to 12 months.
- Notably, Micro, Small, and Medium Enterprises (MSMEs) or small companies with a turnover below Rs 250 crore have a 12-month compliance window, allowing them additional time to meet GMP standards and complete certification processes. MSMEs with a turnover exceeding Rs 250 crore face a tighter timeline of 6 months for compliance.
- According to the Union Health Ministry, among the approximately 10,500 manufacturing units in India, 8,500 belong to the MSME category and around 2,000 MSMEs, primarily exporters, already hold the coveted GMP certification from the World Health Organization (WHO). This certification is particularly crucial for India which is a major drug exporter to low and middle-income countries.

Initiatives for pharmaceutical manufacturing in India:

Pradhan Mantri Bhartiya Janaushadhi Pariyojana:

- Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) is a flagship scheme of the Department whereby quality generic medicines are made available at affordable prices to all through dedicated outlets known as Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJK). The Scheme is being implemented through the Pharmaceuticals & Medical Devices Bureau of India, Department of Pharmaceuticals. As on 30.11.2023, 10,006 PMBJKs have been opened across the country.

PLI Scheme and Drug Manufacturing:

- The Production Linked Incentive (PLI) Scheme in Drug Manufacturing aims to promote domestic manufacturing of Key Starting Materials (KSMs)/ Drug Intermediates and Active Pharmaceutical Ingredients (APIs) in India for 41 identified bulk drugs, to reduce their high import dependence and promote domestic manufacturing. The total outlay of the scheme is Rs 6,940 crore and the period of the scheme is from 2020-21 to 2029-30.
- The scheme provides financial incentives to manufacturers of 41 bulk drugs for six years on their incremental sales during the base year. Successful implementation of the scheme is expected to reduce the import dependence on notified bulk drugs during the implementation period of the scheme in the coming years.

PLI Scheme for Medicines:

- The PLI scheme for medicines is being implemented with the objective of enhancing India's manufacturing capabilities by increasing investment and production in this sector and contributing to product diversification for high-value goods in the pharmaceutical sector. The total outlay of the scheme is Rs 15,000 crore and the period of the scheme is from 2020-2021 to 2028-29.
- Under the scheme, financial incentives are given for the production of products identified under three product categories:
 - » Category 1 includes drugs such as biopharmaceuticals, complex generic drugs, drugs with or nearing patent expiry, orphan drugs etc.

- » Category-2 includes active pharmaceutical ingredients, major starting materials, drug intermediates etc.
- » Category-3 includes auto-immune drugs, anti-cancer drugs, anti-diabetic drugs, anti-infectious drugs, cardiovascular drugs, psychotropic drugs, anti-retroviral drugs, in-vitro devices etc.
- These products are expected to boost innovation, R&D and product diversification of the Indian pharmaceutical industry.

Strengthening the Pharmaceutical Industry:

- The Department of Pharmaceuticals implemented the 'Strengthening the Pharmaceutical Industry' (SPI) scheme with a total financial outlay of Rs 500 crore. The implementation period of the scheme is from FY 21-22 to FY 25-26. The objective of this scheme is to strengthen the existing infrastructure in Pharma MSME clusters and assist the existing Pharma clusters and MSMEs across the country to improve their productivity, quality and sustainability. SIDBI has been appointed as the Project Management Consultant (PMC) for the SPI scheme.
- The scheme is a central sector scheme and consists of the following sub-schemes:
 - » Assistance to the Pharmaceutical Industry for Common Facilities (API-CF)
 - » Pharmaceutical Technology Upgradation Assistance Scheme (PTUAS)
 - » Hazardous and Medical Devices Promotion and Development Scheme (PMPDS)

Scheme to promote bulk drug parks:

- To promote the establishment of Bulk Drug Parks in the country, a scheme 'Promotion of Bulk Drug Parks' was approved. It aims to provide world-class common infrastructure facilities to the units located in the parks which will help in significantly reducing the manufacturing cost of bulk drugs and thereby making India self-reliant.

FDI in pharmaceutical sector:

- Pharmaceuticals is one of the top ten attractive sectors for foreign investment in India. 100% foreign investment is permitted under the automatic route in medical devices. Foreign investment up to 100% is permitted under the automatic route in pharmaceuticals in greenfield projects and foreign investment above 74% and up to 100% for brownfield pharmaceutical projects requires government approval.
- Following the abolition of the Foreign Investment Promotion Board in May 2017, the Department of Pharmaceuticals was entrusted with the role of considering foreign investment proposals under the government approval route.

National Medical Devices Policy 2023:

- The policy aims to facilitate and guide the medical device sector to achieve its mission through specific schemes covering six broad areas that include: regulatory streamlining, enabling infrastructure, facilitating R&D and innovation, attracting investment in the sector, Human resource development, brand establishment and awareness building.

Challenges related to the pharmaceutical manufacturing sector:

- **Non-compliance and Unethical Practices:** Some Indian pharma companies neglect prescribed standards for drug manufacturing, testing, labelling, packaging, storage, and distribution. Unethical practices, such as the use of low-quality or counterfeit raw materials, adulteration, false claims, and data falsification, are observed for cost-cutting or profit increase.
- **Issues with Drug Regulator:** It has been observed that India's drug regulator – the Central Drugs Standard Control Organization does not provide much information to the general public or the media about its activities, processes, results, etc.
- Further, there is no system in place to evaluate its performance or effectiveness in curbing substandard or counterfeit medicines.
- **Challenges in Inspection and Oversight:** Challenges like shortage of manpower, infrastructure, funds, and technology for effective inspection, testing, monitoring, and surveillance of pharmaceutical manufacturing units are another aspect that needs attention.
- **Outdated Regulatory Framework:** The Drugs and Cosmetics Act, 1940, governing India's drug regulation, is outdated and inadequately suited to modern pharma challenges. Although this Act regulates clinical trials and bioequivalence studies, it lacks coverage for essential aspects like Good Manufacturing Practices, crucial for ensuring medicine quality and safety.

Way Forward:

- The urgent need to strengthen rules and regulations in the drug manufacturing sector is crucial for India. Recently, the Health Regulator of Nigeria has also emphasized aligning the export of pharma products with new rules, particularly concerning countries like India.
- In this regard, outdated laws that lack relevant provisions for today's challenges must be promptly revised. Also conducting thorough audits of pharma companies' manufacturing processes is essential, requiring the development of transparent portals for effective oversight. It is important to ensure quality even while exporting pharma products to uphold India's reputation in the global pharmaceutical sector.



Multidimensional Poverty in India: NITI Aayog Report

In its report titled 'Multidimensional Poverty in India since 2005-06', the NITI Aayog has estimated that a total of 24.82 crore people have escaped multidimensional poverty in the last nine years. Based on three NFHS datasets, NITI Aayog has made this estimation regarding the share of MPI poor in the years 2013-14 and 2022-23 with technical inputs from the Oxford Policy and Human Development Initiative (OPHI) and the United Nations Development Programme (UNDP).

More about the Report:

- **Poverty Headcount Ratio:** As per the discussion paper, the Poverty Headcount Ratio (the percentage of the population that falls below the poverty line) has declined from 29.17% in 2013-14 to 11.28% in 2022-23. Further, 24.82 crore people escaped from multidimensional poverty during these 9 years.
- **Severity of deprivation:** The paper notes that the severity of deprivation (measures deprivations the average multidimensionally poor person suffers from) declined at a slightly lower rate between 2015-16 and 2019-21 compared to 2005-06 and 2013-14.
- **Indicator findings:** Indicators in the standard of living dimension showed highest levels of deprivation in 2005-06. For instance, 74.4 per cent of the population was deprived of cooking fuel in 2005-06, which fell to 58.47 per cent in 2015-16, and further to 43.9 per cent between 2019-21.
- Similarly, 70.92 per cent of the population was deprived of adequate sanitation facilities in 2005-06, which reduced to 51.88 per cent in 2015-16, and further to 30.93 per cent between 2019-21.
- The sharpest decline between the two periods was recorded by the indicator measuring deprivation of access to bank accounts, which fell to 9.66 per cent in 2013-14 from 58.11 per cent in 2005-06.
- **State-wise findings:** States like Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan recorded the sharpest decline in the number of people classified as poor based on the Multidimensional Poverty Index (MPI).
- According to the estimated share of MPI poor in 2013-14 and 2022-23, Bihar recorded a 53 per cent drop from 56.3 per cent share of MPI poor in 2013-14 to 26.59 per cent in 2022-23. Jharkhand recorded a 50 per cent drop from 47.13 per cent share of MPI poor to 23.34 per cent. Uttar Pradesh recorded a decline to 17.4

per cent from 42.59 per cent in 2013-14.

- **Interventions from Government:** The report noted that initiatives like 'Poshan Abhiyan' and 'Anaemia-mukt Bharat' significantly enhanced the access to healthcare facilities, whereas targeted public distribution system under the National Food Security Act covered 813.5 million beneficiaries, providing food grains to rural and urban populations.
- Various programmes such Ujjwala Yojana, Saubhagya Scheme, and campaigns like Swachh Bharat Mission and Jal Jeevan Mission have collectively elevated living conditions and overall well-being of people.
- Additionally, flagship programmes like the Pradhan Mantri Jan Dhan Yojana and the PM Awas Yojana have played pivotal roles in financial inclusion and in providing safe housing to the underprivileged.

What is Poverty?

- Poverty is said to exist when people lack the means to satisfy their basic needs. In this context, the identification of poor people first requires a determination of what constitutes basic needs
- These may be defined as narrowly as "those necessary for survival" or as broadly as "those reflecting the prevailing standard of living in the community."
- **Absolute Poverty:** A condition where household income is below a necessary level to maintain basic living standards (food, shelter, housing). It is easier to compare with regard to different countries and also over time.
- **Relative Poverty:** It is defined from the social perspective i.e. living standard compared to the economic standards of population living in surroundings. Hence it is a measure of income inequality.

Poverty Estimations in India: Timelines

- **1901:** Dadabhai Naroji wrote Poverty and Un-British rule in India. He made first estimate of poverty line at 1867-68 prices.
- **1938: National Planning Committee:** Under the chairmanship of Jawaharlal Nehru it suggested poverty line based on minimum standard of living.
- **1944:** Bombay plan proponents suggested poverty line of 75 Rs per capita per year.
- **1962:** Working group by planning commission; took into account the recommendations of a balanced diet by Nutrition advisory group of

ICMR in 1958. It formulated separate poverty lines for rural and urban areas.

- **1971: VM Dandekar and N Rath:** First systematic assessment of poverty in India based on national sample survey data.
- **1979:** Dr Y. K. Alagh task force submitted the report and based the urban and rural poverty lines on assumption of different Poverty Line Basket for rural and urban consumptions.
- **1993:** Lakdawala expert group used CPI- IW for urban areas and CPI-AL for rural areas; disaggregated the poverty lines into state-specific poverty lines to reflect inter-state price differentials.
- **2009: Suresh Tendulkar Committee:** Recommended using Mixed Reference Period.
- **2014:** C Rangarajan committee.

What is Multidimensional Poverty?

- Multidimensional poverty encompasses the various deprivations experienced by poor people in their daily lives – such as poor health, lack of education, inadequate living standards, disempowerment, poor quality of work, the threat of violence, and living in areas that are environmentally hazardous, among others.
- The global Multidimensional Poverty Index (MPI) is an international measure of acute multidimensional poverty covering over 100 developing countries. Developed by UNDP and ODPI, it is based on the Alkire and Foster (AF) methodology that identifies people as poor or not poor, based on a dual-cut-off counting method.
- Global MPI uses ten indicators covering three areas namely:
 - » The Health dimension including Nutrition and Child & Adolescent Mortality indicators.
 - » The Education dimension includes Years of Schooling and School Attendance indicators.
 - » The Standard of living dimension includes 6 household specific indicators namely. housing, household assets, type of Cooking Fuel, access to Sanitation, Drinking water and Electricity.
- MPI assesses poverty at the individual level. If a person is deprived in a third or more of ten (weighted) indicators, the global MPI identifies them as 'MPI poor'.
- India's definition of multidimensional poverty is measured using twelve indicators. Prepared by NITI Aayog this index incorporates two additional indicators, Maternal Health and Bank Accounts,

What is National Family Health Survey?

- It is a large scale multi round survey conducted on a representative sample of households throughout India. It is a collaborative project of Institute of Population sciences, Mumbai; ICF

and the East- West Centre, USA. The ministry of Health and Family Welfare is the nodal agency.

Timeline for various NFHS:

- **NFHS-1:** 1992-93.
- **NFHS-2: 1998-99:** In all 26 states of India. The project was funded by the USAID, with additional support from UNICEF.
- **NFHS-3: 2005-2006:** Funding was provided by the USAID, the Department for International Development (UK), the Bill and Melinda Gates Foundation, UNICEF, UNFPA, and the Government of India.
- **NFHS-4: 2014-2015:** In addition to the 29 states, NFHS-4 included all six union territories for the first time.
- **NFHS-5: 2019-20:** Conducted in around 6.1 lakh households. Many indicators of NFHS-5 are similar to those of NFHS-4.
- Phase 2 of the survey (covering remaining states) was delayed due to the Covid-19 pandemic and its results were released in September 2021.
- It included some new topics, such as preschool education, disability, access to a toilet facility, death registration, bathing practices during menstruation, internet usage and methods and reasons for abortion.

Conclusion:

- The paper although provides an optimistic picture for future of India. It notes that it “may not fully reflect the impact of Covid on the economy” as part of NHFS-5 data collected between 2019-21 was collected before the pandemic. This may undermine the credibility of the report.
- The economic impact of COVID-19 had severe impact in India, with declining incomes, widespread food insecurity, and increased poverty.
- According to the Hunger Watch national survey of the Right to Food campaign, a crisis emerged in December 2021 – January 2022 among which 80% of people reported some form of food insecurity, and 25% reported severe food insecurity. 41% of respondents said the nutritional value of their diet had worsened compared to pre-pandemic times whereas 67% of people could not afford cooking gas in the month before the survey.
- A report by Pew Research Centre further highlights that around 75 million more Indians fell into poverty in year 2022 because of the pandemic-induced economic recession.
- Moreover, the sub-indicators of NMPI are input or process indicators (not indicators of output or outcome) which may not show the clear picture of poverty situation in India.

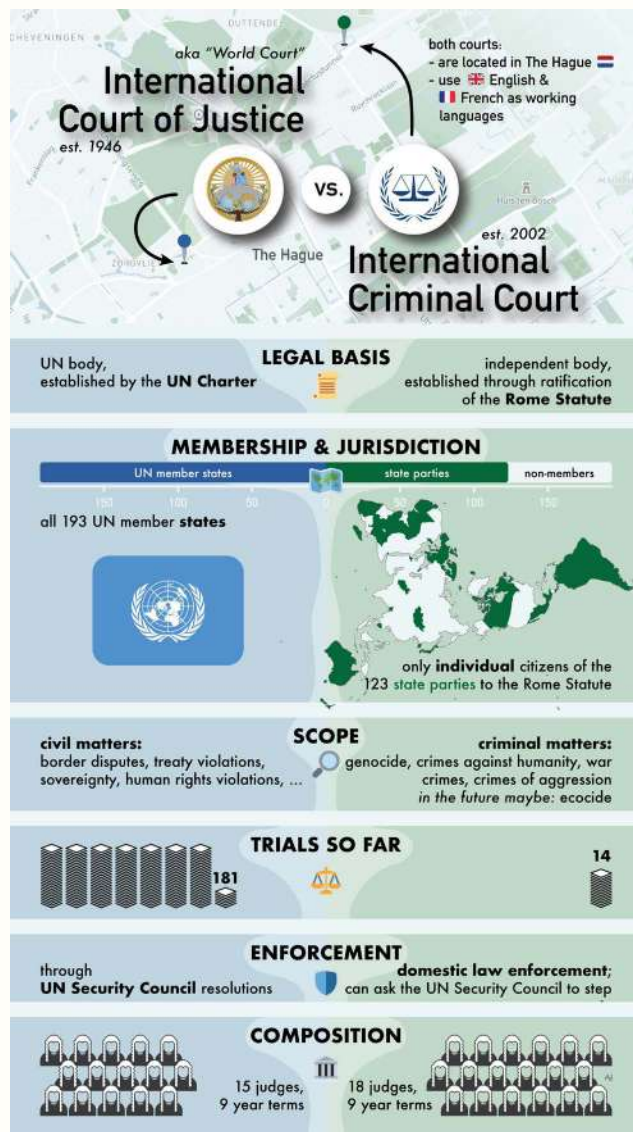


Combating Genocide: Role of the International Court of Justice

The International Court of Justice (ICJ), as the principal judicial organization of the United Nations, adjudicates legal disputes between countries. Presently, ICJ is hearing a case of genocide against Israel, filed by South Africa. The case alleges Israel's responsibility for numerous deaths and infrastructure damage in Gaza. South Africa argues that Israel has violated the rights of Palestine and actions against the extremist organization Hamas violate the Genocide Convention of 1948, while Israel contends that South Africa is covering up the actions of the Hamas. Israeli government spokesperson Ilan Levy has said that South Africa is covering up the misdeeds of the "Hamas rapist regime" and Israel will continue to argue against the terrorist organization Hamas and its supporters in the International Court of Justice.

- South Africa, in its 84-page appeal filed at the ICJ, had said that Israel's actions are genocidal in nature as their intention is the maximum destruction of the Palestinian people in Gaza. It said acts of genocide "constitute the killing, infliction of serious mental and physical harm on the Palestinian people, and the creation of conditions aimed at their collective destruction." According to the appeal filed at the ICJ and statements by Israeli officials the intention of genocide is also reflected. After this, the International Court of Justice has issued an order against Israel on the charges of committing genocide against the Palestinians in Gaza.
- ICJ, located in The Hague, capital of the Netherlands, refused to order an immediate ceasefire in Gaza. However, it called on Israel to make efforts to prevent loss of life and property. Joan E. Donoghue, President of the ICJ, said that 'the Court is acutely aware of the humanitarian tragedy unfolding in the region and is concerned about the loss of life and property.' The apex court said that it will not dismiss the case in which Israel has been accused of genocide in Gaza. South Africa requested the court to order Israel to stop its military operations in Gaza. The court said that Israel will have to punish those who promote genocide in Gaza. Apart from this, the court said that Israel should give permission so that humanitarian aid can reach

Gaza. The ICJ has given Israel one month to implement its decisions.



Israel's stance on ICJ decision:

- Israeli Prime Minister Benjamin Netanyahu has criticized the International Court's decision. He said Israel rejects the "despicable" attempt to deny its right to defend itself. They will continue to fight Hamas. Netanyahu said that Israel has an unwavering commitment to international law, but its sacred commitment to defend its country and to protect its people is equally

unwavering. He said the despicable attempt to deprive Israel of this fundamental right is clear discrimination against the Jewish state. He further said that the charge of genocide against Israel is not only false, it is outrageous, and civilized people everywhere should reject it. Netanyahu declared Hamas a “genocidal” organization and said Israel’s war is not against Palestinian civilians but against terrorists.

- It is noteworthy that the armed terrorists of Hamas, with full planning, attacked the coastal areas of Israel on October 7, 2023, killing 1400 people, while taking about 250 people hostage, taking them to Gaza with them and kept them in tunnels. Since then, Israel is wreaking havoc on Gaza. So far 26 thousand people of Gaza have been killed in Israeli attacks. This number was released by the Health Department of Hamas-led Gaza, although it has not told what is the number of terrorists and civilians among these dead.

Genocide allegations on China:

- Genocide allegations have also been made against China. Although, no big country has officially filed a petition against China in the ICJ on this matter, on an individual and independent level, the US and many of its allies have accused China of genocide based on its atrocities against the Uighurs. In August 2022, the United Nations High Commissioner for Human Rights said that the human rights of Uighur Muslims were being seriously violated in China’s Xinjiang province. The way China has tried to establish political dominance over Tibet by snatching its cultural rights is being called cultural genocide.

What is Genocide?

- The term genocide was coined in 1943 by the Jewish Polish lawyer Raphael Lemkin. He linked the Greek word *xenos*, meaning race or clan, with the Latin word *cid* (kill). Witnessing the brutality of the mass genocide of Jews during World War II, Dr Lemkin campaigned to criminalize genocide under international law. It is noteworthy that in the Holocaust, except Dr. Lemkin’s brother, every member of the family had died. It was because of the efforts of Dr. Lemkin, the United Nations Genocide Convention was accepted in December 1948, which came into effect in January 1951.
- **Definition:** Article 2 of the United Nations Genocide Convention defines genocide as any act committed with intent to destroy, in part or in whole, a national, racial, cultural or religious group. It involves:

- » Killing members of a group, causing serious physical and mental harm to members of a group.
- » Deliberately forcing a group to live in conditions that result in their partial or total physical harm.
- » Taking measures aimed at preventing the birth of children in a group.
- » Forced sending of children from one group to another group.
- All member states that have signed the Convention have a common responsibility to prevent genocide from occurring and to punish those who commit it.

Structure of the International Court of Justice:

- The International Court of Justice adjudicates legal disputes between states and provides advice in accordance with international law on legal questions referred to it by authorized United Nations organs and specialized agencies. The ICJ was formed by the Charter of the United Nations in 1945 and started functioning in April 1946. It is the principal judicial organ of the United Nations which is located in the Peace Palace in the Hague (Netherlands). It consists of 193 countries and its current president is John E. Donoghue.
- The International Court of Justice consists of 15 judges who are elected by the United Nations General Assembly and the Security Council for a nine-year term. These two bodies vote simultaneously but separately.
- In order to get elected, a candidate must get absolute majority in both the bodies. To ensure continuity in the International Court of Justice, one-third of the total number of members of the Court are elected every three years and these judges are eligible for re-election. The International Court of Justice is assisted by a Registry. The Registry is the permanent administrative secretariat of the ICJ. English and French are its official languages. All members of the United Nations are automatically members of the ICJ. The government files a case in the ICJ. The court’s jurisdiction includes hearing disputes related to the 1948 Genocide Convention.
- During World War II, between 1939 and 1945, the Nazis murdered approximately 6 million Jews in Europe. After this, world leaders accepted this treaty to prevent any such incident in future. 152 countries including Israel, South Africa, Myanmar, Russia and America have signed this treaty.



India's Focus on Sustainable Energy Partnership: Possibilities & Challenges

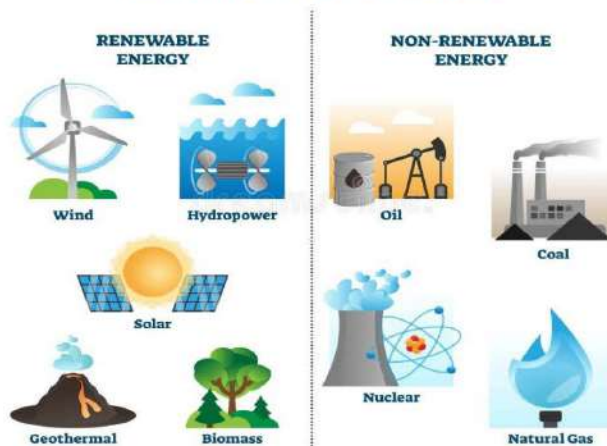
Human civilization has long relied on various forms of energy (especially fossil fuels) and energy cycles, to meet its essential needs. Over time, the demand for energy expanded and this demand was sought to be fulfilled by nuclear power. However, as the environmental and climate impacts of energy consumption became evident, the spotlight shifted towards green, sustainable, and renewable energy sources. Now there is a growing emphasis on strategic alliances aimed at advancing sustainable energy initiatives. Efforts are underway to redefine the energy industry, steering it towards a low-carbon or green economy.

- In the Global Investors Meet, Denmark has recently announced the Green Fuels Alliance India (GFAI) initiative in 2024. This initiative, led by the Embassy of Denmark and the Consulate General of Denmark in India, aims to enhance collaboration between the two nations in the sustainable energy solutions sector. The objective is to align efforts toward achieving the global goal of carbon neutrality. The GFAI initiative focuses on fostering better coordination in the energy industries of both countries, promoting innovation, and establishing a strategic partnership in the green fuels and green hydrogen sectors. The primary objective of Green Fuels Alliance India is to foster an ecosystem for sustainable energy development in the country by strengthening the alliance of businesses, government entities, research institutions and financial partners for sustainable energy growth. Notably, nine leading Danish organizations, including Maersk, Topso, Amvelt Energy, Mash Mex, European Sustainable Solutions, and Hydrogen Denmark, are pivotal players in this effort. They are the founding members of GFAI, forming a robust foundation for the initiative. Its advisory board also comprises entities like the India Hydrogen Alliance and IIT Madras.
- The Green Fuels Alliance India initiative's announcement aligns with India's commitment to achieving net zero emissions by 2070. It is noteworthy that India and Denmark have signed Green Strategic Partnership in 2020 and this new initiative has taken concrete shape as a result of the vision of this partnership. The timing is crucial, sending a significant message showcasing at both bilateral and global levels, the commitment to a green transition. The India-

Danish Green Strategic Partnership provides an appropriate platform for exchange of ideas, best practices, knowledge, technology, capacity building to promote sustainable lifestyles including LIFE, not only in Denmark and India but also for Europe and the world. India and Denmark have set very ambitious targets on climate and energy. These goals will contribute to the ambitious implementation of the Paris Agreement. Together, the two countries can show the world that it is possible to meet ambitious climate and sustainable energy goals.

- During the visit of Prime Minister Narendra Modi to Denmark in May 2022, India and Denmark agreed to further strengthen the Green Strategic Partnership with a focus on green hydrogen, renewable energy and wastewater management.

ENERGY SOURCES



Current Status of India in the Field of Sustainable Energy:

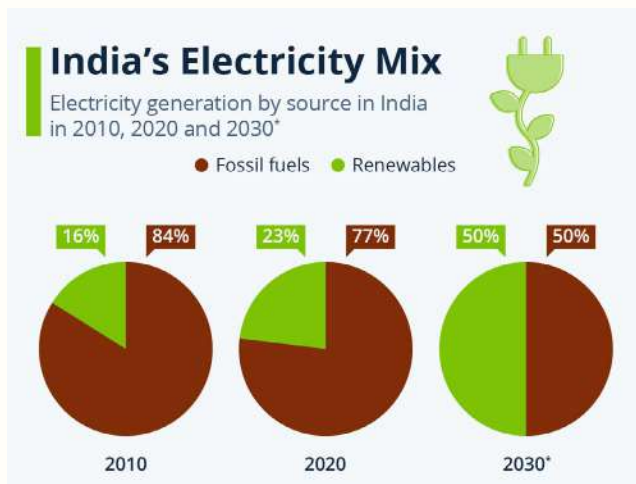
- In line with the Prime Minister's announcement at UNFCCC COP 26, the Ministry of New and Renewable Energy is working towards achieving 500 GW of power capacity from non-fossil sources by 2030. A total of 172.72 GW of power capacity has been achieved from non-fossil fuel sources in the country by 31 October 2022. This includes 119.09 GW of renewable energy, 46.85 GW of large hydro and 6.78 GW of nuclear power capacity. It has a 42.26 percent share in the total installed generation capacity in the country, i.e. by 31 October 2022, the capacity to generate

408.71 gigawatt power has been achieved.

- According to the REN Renewables 2022 Global Status Report, India ranks fourth globally in installed capacity of renewable energy (including large hydro), fourth in wind energy capacity and fourth in solar energy capacity. A total of 14.21 GW of renewable energy (RE) capacity was added during the period from January to October 2022 compared to 11.9 GW capacity addition during the same period from January to October 2021. A total of 151.94 BU of electricity has been generated from renewable energy for the period January to September 2022. Whereas in the period from January to September 2021, 128.95 BU of electricity was generated.

Green Energy Corridors in India:

- Green Energy Corridor (GEC) projects have been initiated to facilitate renewable energy extraction and reshape the grid for future requirements. The first component of the scheme, Inter-State GEC with a target capacity of 3200 Circuit Kilometer (CKM) transmission lines and 17,000 MVA capacity sub-stations was completed in March 2020. The second component – Intra-State GECs with a target capacity of 9700 CKM transmission lines and sub-stations of 22,600 MVA capacity was envisaged to be completed by March 2023. In this direction, 8651 CKM intra-state transmission lines have been constructed and 19558 MVA intra-state substations have been installed by 2022.



- The Ministry of New and Renewable Energy plans to install 13,000 MW of renewable energy along with 12000 MW of Battery Energy Storage System (BESS) in Ladakh. On October 18, 2023, the Cabinet Committee on Economic Affairs approved power offtake and grid integration of 13 GW renewable energy projects in Ladakh and creation of an inter-state transmission system to

send power from Ladakh to other parts of the country.

Challenges in the field of sustainable energy:

- While all countries recognize the significance of sustainable energy, creating a mainstream model of energy security poses questions for many, including India. Addressing these queries requires a commitment to allocating sufficient budgets for essential research and development in the sustainable energy sector. It is imperative to develop indigenous technologies that can bring sustainable energy into practical implementation. Emphasizing technology partnerships is crucial in this regard.
- Additionally, tackling the challenge of low awareness among the public regarding energy consumption is essential. Overcoming this requires measures to promote sustainable energy literacy. By investing in research, developing indigenous technologies, fostering technology partnerships, and promoting energy literacy, countries, including India, can pave the way for a more robust and mainstream model of energy security, contributing significantly to global sustainability efforts.

Way Forward:

- Sustainable Development Goal number 7 talks about ensuring access to clean and affordable energy which is important for the development of agriculture, trade, communications, education, health care and transportation. The world is moving toward sustainable energy goals but not as fast as it should. At the current pace, about 660 million people will still not have access to electricity and by 2030 about 2 billion people will still depend on polluting fuels and technologies for cooking. Therefore, it is necessary to promote sustainable energy partnerships.
- Ensuring universal access to affordable electricity by 2030 necessitates a strategic focus on clean energy sources such as solar, wind, and thermal power. The goal extends beyond mere access, encompassing the imperative to expand infrastructure and upgrade technology, especially in developing countries. This commitment not only stimulates economic growth but also fosters environmental well-being. Given that energy consumption contributes significantly to climate change, accounting for approximately 60 percent of global greenhouse gas emissions, the transition to a sustainable energy system becomes paramount. Countries can expedite this shift by investing in renewable energy resources, emphasizing energy-efficient practices, and adopting clean energy technologies and infrastructure.



Balance Between AI & Employment Opportunities

Before attending the annual meeting of the World Economic Forum in Davos, Switzerland, International Monetary Fund Chief Georgieva expressed concern about the potential threat to job security posed by Artificial Intelligence (AI). Georgieva stated that in developed countries, 60% of jobs could be at risk due to AI. However, she also highlighted the positive aspect, acknowledging that AI presents opportunities to enhance productivity.

- Referring to a recent report by the IMF, Georgieva suggested that the impact of AI might be comparatively less in developing countries. Nevertheless, she cautioned that globally, around 40% of jobs could be affected by the advancements in AI technology.
- According to the IMF report, 2024 is anticipated to pose challenges for the global economy, especially due to the lingering impact of the debt accumulated during the COVID-19 pandemic. Complicating matters, over 60 countries worldwide are set to hold elections this year, leading to increased government spending to garner public support, thereby exacerbating the existing debt burden.

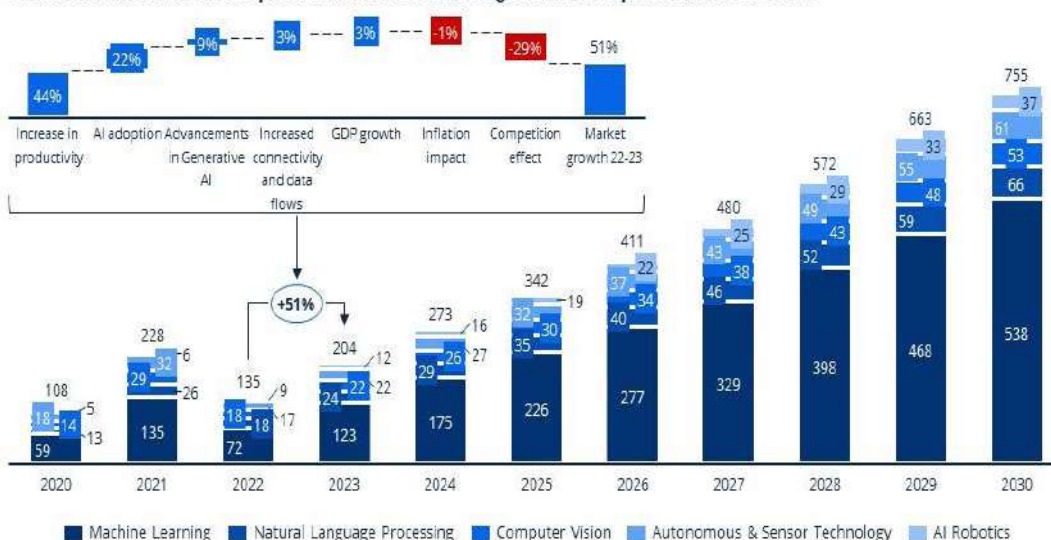
from the rise of AI, reinforcing the importance of addressing economic vulnerabilities while navigating the transformative effects of technology on a global scale.

- Income inequality in the job sector will increase due to AI, but it will depend on how many people get higher salaries with this technology. Georgieva said greater productivity of higher-income workers and companies would boost capital returns, thereby widening the wealth gap. The IMF chief urged the countries to launch “comprehensive social safety nets” and retraining programs for vulnerable workers.
- IMF chief advocated for a proactive approach by countries. She recommended the establishment of retraining programs specifically designed for vulnerable workers. This dual strategy aims to address the looming income disparity while providing support and opportunities for those most susceptible to the transformative effects of AI in the job market.

What is Artificial Intelligence:

- In the broadest sense, Artificial Intelligence is the branch of computer science in which smart

Global AI market value development in billion US\$ and YoY growth rate explanation for 2022-2023



Tech markets CAGR 2020-2027

AI	23.7%
IoT	20.5%
Cloud	18.6%
Cybersecurity	9.9%
Semiconductors	8.0%
IT Services	7.8%
Robotics	6.2%
Software	6.1%

- In response to these concerns, IMF Chief emphasized the need for a targeted approach, suggesting a particular focus on aiding low-income countries to expedite their progress. This strategic assistance aims to enable these nations to capitalize on the opportunities arising

machines are created in such a way that they react and behave like humans. The purpose of creating an intelligent system, machine or robot is to assist in the decision-making process which is thoroughly analyzed based on the data available to the organization. The entire process

of building an intelligent system is similar to the way humans combine information and make appropriate decisions. The only difference is that in the case of AI, decisions are taken by analyzing huge amounts of data generated and collected.

- Technocrats have divided AI into two parts – Narrow AI and General AI. Narrow AI is designed to complete basic tasks or perform basic human tasks i.e. facial recognition, playing chess, solving equations, searching the internet or simply driving a car. General AI is designed to perform a cognitive, intellectual, perceptive and rational function.
- Many businesses involve repetitive tasks, such as sending thank-you emails, verifying certain documents for errors, etc. Document verification for loan processing can be a good example for this. The AI cognitive automation feature helps speed up the process of verifying documents. Some highly advanced organizations use digital assistants to interact with customers which saves the need for human resources. Digital assistants are also used in many websites and mobile applications to resolve customer queries. Some chatbots are designed in such a way that it becomes difficult to decide whether we are chatting with chatbots or with a human being. Many speculations have been made about AI, depending on the specific industry in which it is used.

Report on AI of the Ministry of Electronics and IT:

- The report of the expert committee formed by the Ministry of Electronics and IT on AI has been released. According to this report, 38% of the employees are apprehensive that their jobs may be affected by AI and 13% are convinced that AI will destroy their jobs. According to the report, most jobs can be lost due to the use of AI mainly in areas where less skilled people are needed. In the coming times, banking, retail, healthcare, manufacturing and various types of consumption sectors are going to be affected by AI. This is the reason why India has started preparations to adopt the skills required in the future keeping AI in mind.
- At present the global AI market is worth 210 billion dollars and by the year 2030, the global market of AI will be worth 750 billion dollars. AI is going to be very helpful in increasing the productivity of any country and creating new jobs. By the year 2025, the use of AI may eliminate the jobs of 8.5 crore people across the world and will also create jobs for 9.7 crore people. This means 1.2 crore more job

opportunities will be created.

Disadvantages of Artificial Intelligence:

- Most researchers working in the AI field think that no AI is likely to mimic complex human emotions like love or hate. Therefore the probability of an AI system intentionally becoming unhelpful or malicious is very low. If AI systems are not used properly, scientists hypothesize two negative scenarios that are most likely to occur.
- **Devastation:** Autonomous Weapons (Automated Weapons) are artificial intelligence systems and are intended to eliminate the objects they are programmed to kill. If put into the hands of the wrong person, these weapons can easily cause mass destruction. In the context of greater efficacy, such weapons could be made extremely difficult to maintain, free from human interference.
- **High expectations, low results:** AI is generally designed to have beneficial functions, but there can be no guarantee that the system fully achieves its goals or even contradicts its original purpose. This can happen if we fail to fully align with the goals of AI.
- In the journey of creating a better world, it's crucial for humanity to recognize the dual nature of technological advancements. While acknowledging the positive aspects of AI, it becomes imperative for individuals to harness their intelligence to utilize technology responsibly. Dispelling myths and unfounded fears surrounding the rise of robots is essential. As of now, there is no evidence supporting the idea that any AI application can threaten humanity's existence. AI, fundamentally a human-created resource, is intended for the benefit of mankind.
- However, concerns persist regarding the possibility of human-driven advancements leading to an AI system powerful enough to surpass human reasoning and cognitive capabilities.
- In 1965, British mathematician and cryptologist IJ Good rightly observed that designing smart AI systems is in itself a rational and thoughtful task. The discovery and revolution of new technologies like super-intelligence must be used to help society eliminate war, disease, and poverty and that is why AI has become the biggest and most important innovation by human beings.



Organized Crimes: A Challenge to India's Internal Security

Organized crimes like narcotic drugs and psychotropic substances, illegal weapons and explosives, human trafficking, wildlife trafficking have emerged as serious challenges to India's internal security in recent times. Organized crime networks are fostering a deep criminal culture in India which makes dismantling these gangs a top priority for law and order.

- According to the Ministry of Home Affairs of the Government of India, 'Organized crime includes any continuing illegal activity which is carried out by a person, singly or jointly, or as a member of an organized syndicate or gang, or on behalf of a syndicate.' It includes, use of violence, threat of use of violence, use of intimidation and coercive elements to obtain monetary benefits illegally, to obtain or attempt to obtain undue economic benefits and to carry out subversive activities.
- MCOCA, a law made by the Maharashtra government to deal with organized crimes, defines organized crime as an illegal activity carried out by a group of persons on a continuous basis. This activity is carried out as a member of an organized crime syndicate through the use of violence, threats of violence, intimidation or force. Organized crime is committed primarily with the intention of obtaining economic or monetary gain or unfair advantage.
- According to the United Nations Convention on Transnational Organized Crime, when an organized group of three or more persons acts collectively to commit a serious crime for direct or indirect economic or other benefits, then such crime can be categorised as an organized crime. According to the United Nations, only such crimes are included in organized crimes in which the punishment is at least 4 years.

Characteristics of organized crimes:

- Organized crime is an ongoing criminal and conspiratorial act. To commit organized crime, organized criminals have a hierarchical structure in which a hierarchical order of orders and instructions is maintained.
- Organized crime promotes violence and social instability. The nexus of organized crime with terrorists has emerged as a challenge to national security, internal security and territorial integrity of the country.
- The most important objective of an organised crime is to obtain unfair economic or monetary

benefits under which illegal acts are done by challenging the law and order.

What is Organized Crime?



Classification of Organized Crimes:

- Organized crimes can be classified as traditional and modern organized crimes. Traditional organized crimes include dacoity, robbery, mafia gangs or gangsters, gambling, immoral prostitution, criminal conspiracy etc. Modern organised crimes on the other hand include crimes such as Drug trafficking, wild life trafficking, money laundering etc.
- Criminal conspiracy is defined in section 120B of the Indian Penal Code. It states that when two or more persons agree to do or plan to commit an illegal act then it is considered as criminal conspiracy in the form of organized crime.
- Dacoity has been the oldest form of organized crime in India, committed for the purpose of plunder and ransom, which is also defined in the Indian Penal Code. Section 391 of the Indian Penal Code states that when five or more persons together commit or attempt to commit robbery or robbery, it is called dacoity.
- A gang refers to a group of individuals who create an imbalance in public order to obtain unfair economic, material or other benefits for themselves or someone else. In this order, to achieve their monetary objectives, gangs or gangsters use violence, threaten to use violence, use force and threats at individual or collective levels. There is no clear law to deal with the criminal activities of gangs and gangsters.
- To deal with this in Uttar Pradesh, the Uttar Pradesh Gangster and Anti-Social Activity Prevention Act, 1986 was enacted, under which a gang was defined as a group of persons who

singly or collectively act for taking unwanted political, material and economic benefits. They are also involved in violence and anti-national activities. Under this, kidnapping for ransom, targeting an aircraft, promoting communal tension etc. are done. Some of the major criminal gangs in India include Dawood Gang, Chhota Rajan Gang, Amar Nayak, Veerappan Gang, Latif Gang and Rashid Gang etc.

Drug trafficking: A challenge to internal security:

- Drug trafficking has emerged as one of the most serious organized crimes affecting society and law and order which is virtually transnational. India is geographically located between the Golden Crescent (Pakistan, Afghanistan and Iran) and the Golden Triangle (Thailand, Myanmar and Laos), due to which India is seen as a transit route for narcotic drugs in these regions. There has been illegal production and sale of narcotics in India, which include heroin, hashish, opium, cannabis, brown sugar, smack, cocaine, amphetamine, ganja, hashish, morphine, methadone etc.
- Drug trafficking poses a multifaceted challenge to internal security, as it not only fuels the financing of terrorist and subversive activities, jeopardizing law and order, but also supporting extremist subversive groups in North-East India, fostering separatist movements.
- Furthermore, the parallel functioning of the Indian economy contributes to drug addiction among the youth, giving rise to two distinct problems: drug use and abuse, and drug dependence and addiction.
- **Increase in wildlife crime:** Illegal trade of endangered animals or wildlife and their smuggling for economic gain is emerging as another major form of organized crime. This challenge to internal security as the illegal money obtained from wildlife trafficking can be used to finance terrorism, much evidence of which has been found at the national and international levels. Attempting to gain profit by selling economically lucrative parts of wildlife makes it an organized crime.
- It is noteworthy that the international demand for various Indian wildlife is at a high level in Southeast Asian countries and East Asian countries, especially in China, Malaysia, Singapore, Thailand etc. It is used in making traditional medicines which can cure many incurable diseases.
- To deal with this organized crime, the intelligence system should be strengthened, the role of organizations like Wildlife Crime Control

Bureau should be made dynamic, security forces and paramilitary forces, especially those deployed at airports and ports, should be given special responsibility.

Money Laundering: A Challenge to Internal Security:

- Money laundering as an organized crime is a major threat to the internal security of the country as it negatively affects the country's economy, formal financial system, banking rules and regulations. It promotes parallel economy and circulation of black money including hawala business in the country.
- Money laundering promotes illicit activities and corruption while serving as a tool to finance terrorist and separatist activities. This presents a challenge to India's law enforcement bodies and economic intelligence agencies. Thus, it becomes a way to hide money earned through illegal activities like smuggling, kidnapping, ransom, illegal mining etc.
- Such money may be used in the real estate sector, funding of elections, investment in benami assets, excise sector, investment in the stock market, financing of terrorism and insurgency etc.
- Black money is largely responsible for money laundering, so it is necessary to deal with black money in order to deal with money laundering. The major agencies dealing with black money in India include the Central Board of Direct Taxes, Central Board of Excise, Enforcement Directorate, Financial Intelligence Unit, Economic Offences Wings of state police, Central Bureau of Investigation, Serious Fraud Investigation Office, Narcotics Control Bureau, Central Economic Intelligence Bureau, National Investigation Agency etc.
- The Enforcement Directorate is entrusted with the task of prosecution and investigation of money laundering offenses under the Prevention of Money Laundering Act, 2002 and seizure and attachment of articles of crime from entities involved in money laundering. The Enforcement Directorate is spread across all India level with regional offices in various states.
- Similarly, the Financial Intelligence Unit was formed by the Government to strengthen the coordination and efforts of national and international intelligence agencies and investigation and enforcement agencies in combating money laundering and terrorist financing. It is responsible for receiving, analyzing and disseminating information related to suspicious financial transactions.



El Nino Impacting the Indian Climate: Related Aspects

The various processes, including both exogenic and endogenic, operating exteriorly and interiorly on the Earth simultaneously configure its entire biosphere, including its physiography, atmosphere, oceans and the overall climate. One among such processes is El-Nino Southern Oscillations (ENSO) which impacts the weather, wildfires, ecosystems and the economies at large. ENSO comprises two opposing climatic patterns that break the normal conditions occurring every two to seven years on average. These patterns last typically for 9 to 12 months however at times they can last for years.

In this context, the World Meteorological Organization (WMO) has issued an update that ongoing El Nino event in the equatorial Pacific Ocean may continue into April 2024 and peak between November and January, according to the latest El ENSO. The US National Oceanic and Atmospheric Administration (NOAA) have predicted that there is a one in three chance that 2024 will be warmer than 2023 and 99% percent certainty that 2024 will rank among the five warmest years.

What is El Nino Southern Oscillation:

➤ ENSO is naturally occurring large scale climatic phenomenon that drives season in the central and eastern tropical Pacific Ocean. It is made of two words that define two different processes called El Nino and South Oscillations. The basic process that drives this phenomenon is the tendency of matter, whether in form of air or water, to expand when heated and subside when cooled. The oscillating warming and cooling pattern of winds and sea surface temperatures eventually leads to warm (El Nino) and cool (La Nina) phases in the region.

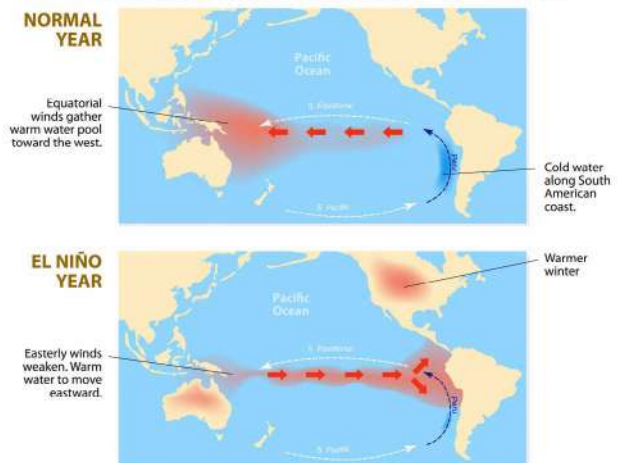
Impact around the globe:

- A prolonged El Nino is poised to disrupt rainfall patterns across Latin America, causing apprehension for the region's agricultural sector. The Food and Agriculture Organization of the United Nations underscores the alarming rise in Pacific sea surface temperatures, particularly along the South American coast in recent months.
- The FAO's report forecasts the first quarter of 2024 to bring above-average rainfall to southern cone countries like Peru and Ecuador, as well as Mexico. In contrast, Brazil, Guyana,

and Suriname are expected to grapple with ongoing dry conditions. The agricultural sector, comprising crops, livestock, forests, and fishing, is deemed highly vulnerable to these erratic weather patterns.

- The report emphasizes the sector's resilience, capable of absorbing up to 26% of economic losses during extreme weather conditions and a staggering 82% during droughts. However, critical fish species, including anchovies and tuna along the northern coast of Peru and southern Ecuador, face heightened risks due to shifting weather patterns. Ecuadorian fishermen have already reported a significant 30% decrease in tuna catches since February, indicating the tangible impact on vital marine resources.

THE EL NIÑO PHENOMENON



The Impact on India:

- In India, El Nino is generally associated with weakening Monsoon winds and dry weather, which can lead to reduced rainfall during the monsoon season. These can include heavy rainfall and flooding in some areas and extended dry spells in others. A half-degree or more rise in El Nino corresponds to diminished rainfall in India, while La Nina is linked to increased rain. Over recent decades, climate change has significantly elevated Indian Ocean temperatures and with this is impacted the overall ENSO link with Indian weather.
- **Impact on monsoon:** India's monsoon rainfall,

constituting 80% of the annual precipitation, is shaped by external and internal factors. The external influence stems from the ENSO, impacting trade winds that transport warm, moist air to India during the monsoon. Simultaneously, the monsoon trough, an elongated low-pressure area from Pakistan to the Bay of Bengal, moves across India, bringing rain activated by low-level cyclones known as 'depressions' from the Bay of Bengal.

- A recent study in Scientific Reports highlights a changing pattern in the ENSO's impact. Central India, the monsoon core zone crucial for rainfed agriculture, is increasingly disassociating from ENSO, with only 10% of droughts or excess rains linked to ENSO fluctuations. In contrast, North India experiences a strengthening ENSO link, with 70% of rainfall fluctuations connected to the ENSO cycle. In southern India, the relationship has remained relatively stable.
- **Impact on snowpack:** A new study published in Nature recently claimed that human-induced climate change has declined the snowpack in the entire Northern Hemisphere by 10-20% between 1981 and 2020. Snowpack refers to the accumulated snow on the ground following snowfall and tends to not melt for a long time, owing to below-freezing temperatures.
- In the Himalayan and northern regions of India, a noticeable decline in snow cover due to El-Nino has led to relatively warmer winters. This shift, favoring rain over snow, poses significant implications for water security and broader ecosystems. The consequences of reduced snow cover extend throughout the year, impacting various aspects of life in these regions.
- The diminished snow cover in the Himalayas has a profound impact, over large areas. With lower snowfall, glacial meltwater flow decreases during the high-demand summer months, affecting drinking water and irrigation in the plains. This shortage also disrupts the flow of seasonal fruits and vegetables during the off-season for horticulture crops in the Indo-Gangetic plains, underscoring the vital role of winter precipitation in sustaining the region's water resources and agricultural practices.
- Furthermore, the El Nino effect, accentuated this year, contributes to a sudden temperature increase post the cold season. This temperature rise, particularly impactful on non-irrigated and mountainous areas, threatens premature ripening of crops, directly impacting yields. Pulses, oilseeds, fruits and vegetable crops are expected to bear the brunt of these

consequences, emphasizing the vulnerability of these regions to climate variations.

- Very poor snow and no rainfall in most parts of India in winter could impact India's economic growth for the financial year 2023-24, projected to be 7.3% as per the latest advance estimate of the National Statistical Organisation.

Way Forward:

- According to climate models, the connection between El Nino and the Indian summer monsoon will intensify in the future, especially if we continue with high carbon emissions. In simple terms, this means that the impact of El Nino on the Indian monsoon will become even more pronounced. In addition to projected increases in erratic rainfall, prolonged droughts, and heatwaves due to climate change, the forecast of amplifying El Nino impacts on the Indian monsoon have led the Intergovernmental Panel on Climate Change's sixth report to assess India as the most vulnerable nation in Asia concerning impacts on crop production. This underscores the urgency of wide-ranging adaptation and risk mitigation actions in India.
- Embracing climate-resilient crop varieties and livestock is a pivotal step. Altering cropping patterns to reduce reliance on specific crops and promoting diverse crop systems enhances adaptability. Despite strides in irrigation infrastructure, with around 50% of agriculture dependent on rainfall, there's a critical role for efficient irrigation and water management practices to reduce water requirements.
- Implementing water and soil moisture conservation methods, agroforestry, and forestry initiatives are vital for maintaining a healthy ecological balance. Livestock and fishery sectors, susceptible to climate impacts, necessitate diversification of breeds, improved animal health management, sustainable fishing practices, and habitat protection.
- Recognizing the wealth of knowledge held by indigenous communities is crucial. Indigenous farmers have preserved climate-resilient seed varieties capable of withstanding various climatic challenges. Leveraging these seeds enhances farmers' resilience to a changing climate.
- Moreover, the dissemination of weather forecasts through TV, radio, and SMS, is crucial. These systems empower farmers with timely information about extreme conditions and guide them on remedial measures.



National Issue



1

Pradhan Mantri Suryodaya Yojana

Why in News:

On January 22, Prime Minister Narendra Modi unveiled the 'Pradhan Mantri Suryodaya Yojana,' a government initiative set to provide rooftop solar power systems to one crore households.

About Pradhan Mantri Suryodaya Yojana:

- The Pradhan Mantri Suryodaya Yojana is a new initiative in India aimed at promoting rooftop solar power systems. The objective is to install solar power systems on 1 crore (10 million) houses across the country. The scheme intends to not only reduce electricity bills for the poor and middle class but also contribute to India's goal of achieving energy self-reliance.

India's Current Solar Capacity:

- As of August 2023, India's total solar power capacity has reached around 70.10 GW.
- The installed capacity for rooftop solar is approximately 10.4 GW as of November 2023.
- Solar power holds a significant share in India's overall renewable energy capacity, which stands at approximately 180 GW.

Rooftop Solar Programme:

- Launched in 2014, the Rooftop Solar Programme focuses on expanding rooftop solar capacity in the residential sector.
- The program provides Central Financial Assistance and incentives to distribution companies (DISCOMs).
- The goal of the program is to increase rooftop solar installed capacity to 40 GW by March 2026.
- Currently in its second phase, the program has contributed to the growth from 1.8 GW in March 2019 to 10.4 GW in November 2023.
- Consumers can participate through DISCOM tendered projects or the national portal (www.solarrooftop.gov.in).
- Consumers have the flexibility to choose vendors and equipment quality/efficiency.
- DISCOMs play a limited role, focusing on technical feasibility approval, net-meter installation, and system inspection.
- Subsidies are directly transferred to consumers bank accounts after the installation and inspection of the solar power systems.
- Surplus solar power generated can be exported to the grid, and consumers receive monetary benefits based on prevailing regulations set by State Electricity Regulatory Commissions/Joint

Electricity Regulatory Commission.

Way Forward:

India is expected to witness the largest energy demand growth globally over the next 30 years. To meet this demand and diversify the energy mix, India aims to achieve 500 GW of renewable energy capacity by 2030. Solar power capacity in the country has witnessed substantial growth, increasing from less than 10 MW in 2010 to 70.10 GW in 2023. If Pradhan Mantri Suryodaya Yojana is implemented properly, it can prove to be a game changer in India achieving the goal of energy self-reliance.

2

Annual Status of Education Report 2023

Why in News:

The Annual Status of Education Report (ASER) 2023 'Beyond Basics' was released by the NGO Pratham Foundation.

About ASER 2023: 'Beyond Basics' Survey

- ASER is a nationwide citizen-led household survey in rural India. Implemented in 2005 and shifted to an alternate-year cycle in 2016, the 'Basic' ASER survey includes enrolment, learning assessments, and expanded domains.
- The present survey covered 28 districts across 26 states, targeting 34,745 youth aged 14-18.

Enrolment:

- According to ASER 2023 Report, now more children in India have more years of schooling than ever before. It finds 86.8% of 14-18 year-olds enrolled in educational institutions. However, the report doesn't see enrolment as an end in itself.
- Further, the report finds notable enrolment differences by age and finds that 32.6% were not enrolled at 18.

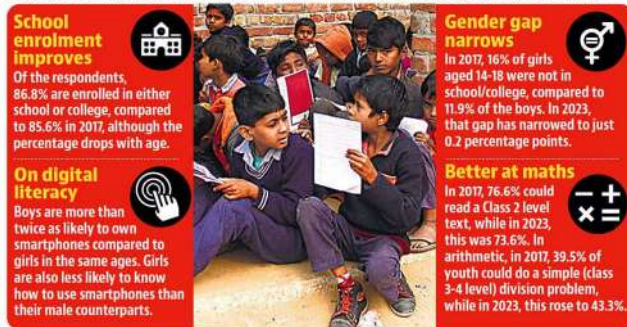
Skills and Ability:

- The report finds a predominance of Arts/Humanities stream in higher grades (55.7% in Std XI or higher).
- Further, it finds that 25% of youth in the age group 14-18 struggle to read Standard II level text while over half struggle with 3-digit by 1-digit division. Similarly, 57.3% can read English sentences and of these almost three quarters can tell their meanings (73.5%).
- The survey also notes that Vocational skilling is not the first choice for youth with only 5.6% involved in current vocational training.
- This is a serious deficit that has a bearing on the quality of the country's labour force. Skilling

programme, however ambitious and well-designed it is, can't succeed when its targeted beneficiaries have problems with elementary reading and basic arithmetic.

Learning outcomes lag among teens

The Annual Status of Education Report (ASER) 2023, titled 'Beyond Basics', is based on a survey of 34,745 people between the ages of 14 and 18 in government and private institutes across 28 districts in 26 states



Way Forward:

- ASER 2023 further highlights the increasing pressure on young students amidst acute academic competition which is not merely confined to urban areas. The difficulties in rural areas further enhances as the students have to juggle academic requirements with responsibilities like working in family farms.
- The increasing use of smartphones in rural areas (about 95% surveyed households had these devices and nearly 95% men and 90% women could use them) is an opportunity to extend education, and design classrooms that are flexible with time and schedules.
- NEP 2020 envisions embedding digital technologies in the educational landscape pivoting from a curriculum-centred approach to one focused on the individual learner. The ASER 2023 findings with regard to digital and other educational capabilities of youngsters could provide significant cues to policymakers in implementing NEP's visions.

3

New Electricity Rules

Why in News:

The Union Ministry of Power issued Electricity (Amendment) Rules 2024, under the aegis of the Electricity Act, 2003, aiming at reducing the hassles of electricity supply for large corporate and green energy sectors.

About the Rules:

- The rules now allow consumers, which have specified energy load and Energy Storage Systems (ESS), to establish, operate and maintain their

dedicated transmission lines themselves without the requirement of a licence. The rules cover companies/persons which have loads of more than 25 megawatts and 10 megawatts on interstate and intra-state transmission networks.

- By allowing such a facility, a new category of bulk consumers would emerge, benefiting from more affordable electricity and enhanced grid reliability. This facility was already available to generating companies and captive generating stations.
- The rules have also addressed the issue of high open access charges faced by large electricity consumers. They have stipulated a new formula to reduce open access charges. They have also prescribed that the additional surcharge on a person availing General Network Access (GNA) or Open Access shall be linearly reduced and eliminated within four years from the date of grant of access.
- GNA means open access to the interstate transmission system. This is in keeping with the concept of One Nation, One Grid.

Various charges under the Open Access mechanism:

- **Transmission charges:** Charges are payable to the transmission company for using the transmission infrastructure.
- **Wheeling charges:** Charges are payable to the distribution company for using the infrastructure.
- **Transmission and wheeling losses:** These are the electricity losses incurred during the transmission and distribution of power.
- **Cross-subsidy surcharge (CSS):** These are payable by commercial and industrial buyers to fund the tariff subsidy for agricultural and residential buyers.
- **Additional Surcharge (AS)**
- **Banking Charges**
- The power distribution companies (DISCOMs) often levy stiff open access surcharges on commercial and industrial (C&I) consumers to dissuade them from opting for other sources of power. These charges were capped by the union Ministry of Power but the discoms started levying a variety of other charges such as additional surcharge.
- It is to address this problem, the ministry has notified that for a person availing GNA or Open Access, the additional surcharge shall be linearly reduced and eliminated within four years from the date of grant of access.

Conclusion:

Doing away with the requirement of license for dedicated transmission lines for the industry will

lead to ease of doing business for the industry, leading to faster industrial growth and more job creation. This, along with the rationalisation of open access charges will lead to faster adoption of renewable energy by the industry, thus, reducing emissions.

4 Operation Sarvashakti

Why in News:

Following three major attacks on the security forces in 2023 and death of many soldiers in terrorists ambushes over the past few years, the Indian Army has launched Operation Sarvashakti in the Rajouri-Poonch sector of Jammu and Kashmir, deploying forces on both sides of the Pir Panjal range to target terrorists who have carried out a series of attacks on troops in the area.

The Strategic Importance of Pir Panjal:

- The areas south of Mendhar, leading to the Pir Panjal range through Hilkaka, present one of the shortest routes for infiltrators from across the Line of Control (LoC) into the Kashmir valley. Terrorists strategically chose this region for setting up camps due to its tactical advantages.
- Dominating this area provides a potential conduit for personnel during a military operation by Pakistan and facilitates easier infiltration.
- The terrain's dense forests and steep mountain slopes offer both cover and visual dominance, allowing terrorists to merge with the foliage during Indian troop searches and inflict casualties if encountered.
- Despite potential security measures, these locational advantages for terrorists remain to some degree, emphasizing the ongoing challenges in securing this critical access route.

Operation Sarpvishash:

- In 2003, Indian forces launched Operation Sarpvishash to flush out terrorists who had infiltrated from across the border and set up camps in the thick forests south of the Pir Panjal range, especially in the Hilkaka area in Poonch.
- Roughly three-month-long, this operation took place in high forested mountains, in an approximately 150 sq km area bound by three major ridges. Some 10,000 troops under the 15 Corps and 16 Corps were involved in the operation.
- About 100 terrorists were killed in the operation and some 40-50 terrorist hideouts were demolished in the operation.
- A large number of weapons of various kinds, dumps of explosives, and stores including

some 7,000 kg of ration, medicines, and communication equipment were recovered.

Conclusion:

- The thickly forested areas of Pir Panjal, with some parts so dense that sunlight rarely penetrates, offer ideal cover for terrorists, enabling them to evade both aerial surveillance and ground patrols by the armed forces. Once entrenched, they can discreetly observe and track army movements, launching ambushes and retreating into the vast forests.
- Despite the terrain's suitability for guerrilla-style operations, the concerning aspect is that these terrorists have operated in the region for an extended period without being apprehended. This suggests potential local support in an otherwise peaceful region, pointing to a significant challenge in counterterrorism efforts.

5 Sub-Categorisation of SCs

Why in News:

The Government of India has formed a five-member committee under the chairmanship of Cabinet Secretary Rajiv Gauba to evaluate and work out a method for equitable distribution of benefits, schemes and initiatives to the most backward communities among all the categories of SCs. This committee has sparked the demand for sub-categorisation SCs.

About Sub-Categorisation of SCs and its need:

- The sub-categorisation within the Scheduled Castes refers to the process of creating sub-groups within the existing categories of SCs for reservation and other affirmative actions.
- The committee has been tasked to work out a method that can provide targeted benefits to those sections amongst the 1200 SCs across the country, that have been crowded out by relatively forward and dominant ones.
- The demand for sub-categorisation of the scheduled castes has been raised since the 1990s decade. The earliest demands were raised by the Madiga community of Telangana and similar demands had been raised from Punjab, Bihar and Tamil Nadu.
- The ground for demand is that benefits which are provisioned for social upliftment and economic empowerment of Scheduled Castes are cornered by the SCs who are politically strong or majority. Many states have tried to bring laws at the State level in a bid to categorise SCs.

Constitutionality of Sub-Categorisation:

- The seven-judge Constitution Bench of the Supreme Court is set to start hearing whether sub-categorisation among SCs and Scheduled Tribes is at all permissible. In legality of this measure, the Attorney General in 2005 had opined that this could be possible if there was 'unimpeachable evidence to indicate a necessity'.

Advantages of Sub-Categorisation:

- There is evidence of disproportionate and inadequate representation of certain dominant and influential sub-groups within the SCs, STs and OBCs categories.
- The sub categorization will result in inclusive and more just delivery of socio-economic and politically targeted benefits to underprivileged sections of society.

Limitations of Sub-Categorisation:

- The National Commissions for both SCs and STs have opposed the move in 2005, to amend the Constitution for this purpose. They argued that just setting aside a quota within the quota would not be enough.
- A separate 100% count of all castes- a caste census of each community and sub-community and their respective socio-economic data will be further needed for its implementation.
- It can fuel the separatist regional consciousness within the states.

Way Forward:

The inclusive and justiciable development of the country is essential for India in its journey to become a developed country. It is the need of the hour that existing schemes and benefits reach underprivileged sections.

6

Sapinda Marriages

Why in News:

The Delhi High Court has upheld the constitutionality of Section 5(v) of the Hindu Marriage Act, 1955 (HMA), which prohibits marriage between two Hindus if they are "sapindas" of each other. However, marriage can be allowed between sapindas if custom and usage allow it. The expressions "custom" and "usage" signify any rule which, having been continuously and uniformly observed for a long time, has obtained the force of law among Hindus in any local area, tribe, community, group or family; provided that the rule is certain and not unreasonable or opposed to public policy.

Grounds on which the law was challenged:

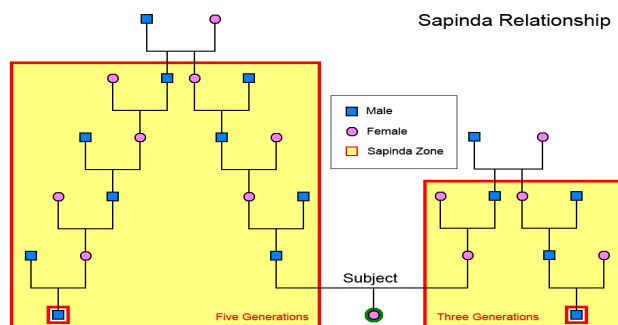
- In 2007, the woman's marriage was declared void after her husband successfully proved that they

had entered into a sapinda marriage and that the woman was not from a community where such marriages could be considered a custom. This ruling was challenged before the Delhi HC, which dismissed the appeal in October 2023.

- The woman then approached the HC again, challenging the constitutional validity of the prohibition on sapinda marriages. She argued that sapinda marriages are prevalent even when there is no proof of custom. Hence, Section 5(v) which prohibits sapinda marriages violates the right to equality under Article 14 of the Constitution.

Observation by High Court:

- The high court said that the petitioner did not provide "stringent proof" of an established custom, which is necessary to justify a sapinda marriage.
- The Delhi HC also held that the choice of a partner in a marriage can be subject to regulation. With this in mind, the court held that the woman did not present any cogent legal ground to show that the prohibition against sapinda marriages was violative of the right to equality.



About Sapinda Marriage:

- A sapinda marriage is one between individuals who are related to each other within a certain degree of closeness.
- Under the provisions of the HMA, on the mother's side, a Hindu individual cannot marry anyone who is within three generations of them in the line of ascent. On the father's side, this prohibition applies to anyone within five generations of the individual.
- If a marriage is found to violate Section 5(v) for being a sapinda marriage, and there is no established custom that allows such a practice, it will be declared void.
- This would mean that the marriage was invalid from the very beginning, and will be treated as though it never took place.

Conclusion:

The Delhi High Court decision reaffirms the importance of established customs in Sapinda

marriages, highlighting the need for strict proof. The Court's acceptance of regulation of marital options reflects concerns about potential social impacts. Comparatively, laws on incestuous relationships vary globally, influenced by cultural and legal factors.

7 AISHE Report

Why in News:

The Ministry of Education, Government of India has released the All India Survey on Higher Education (AISHE) 2021-22, which has shown an increase in total enrolment in higher education to nearly 4.33 crore in 2021-22 from 4.14 crore in the previous session. The survey also pointed out that the overall female enrolment has increased to 2.07 crore in 2021-22 from 2.01 crore in 2020-21.

Highlights of AISHE 2021-22:

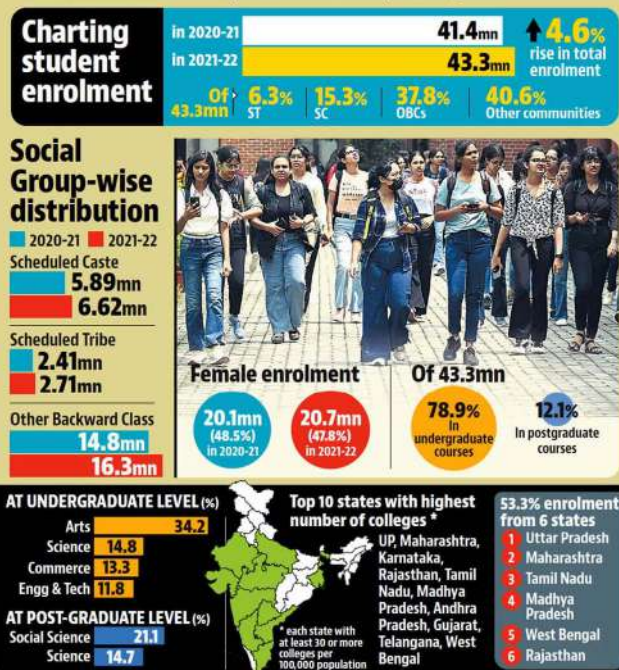
- In 2021-22, the overall Gross Enrolment Ratio (GER) in higher education for the age group 18-23 years increased to 28.4%, from 27.3% in 2020-21 and 23.7% in 2014-15, the base year.
- Female GER increased to 28.5% (2.07 crore) in 2021-22 from 27.9 (2.01 crore) in 2020-21 and 22.9 percent in 2014-15.
- The GER of Schedule Caste (SC) and Schedule Tribe (ST) students have also increased by around 2%. In 2020-21, the GER of SC students was 25.6% and ST was 23.4%, while in 2021-22 it increased to 27.2% and 25.8% respectively.
- The enrolment of OBC students has also increased to 1.63 crore in 2021-22 from 1.13 crore in 2014-15.
- About 78.9% of the total students are enrolled in undergraduate-level courses and 12.1% are enrolled in postgraduate-level courses.
- Among disciplines at the undergraduate level in AISHE 2021-22, enrolment is highest in Arts (34.2%), followed by Science (14.8%), Commerce (13.3%), and Engineering and Technology (11.8%).
- Among streams at the postgraduate level in AISHE 2021-22, the maximum students are enrolled in Social Science (21.1%), followed by Science (14.7%).
- As per the survey, the total number of faculty/teachers in 2021-22 is 15.98 lakh, of which about 56.6% are male and 43.4% are female.
- Government Universities constituting 58.6% of total Universities, contribute 73.7% of total enrolment, and Private Universities account for 26.3% of total enrolment.

About All India Survey on Higher Education:

- The AISHE report has been published by the Ministry of Education since 2011.
- **Aim:** To portray the status of higher education in the country.
- The survey covers all the institutions in the country engaged in imparting higher education.
- Indicators of educational development such as Institution Density, Gross Enrolment Ratio, Pupil-teacher ratio, Gender Parity Index, Per Student Expenditure will also be calculated from the data collected through AISHE.
- For the purpose of this survey, Higher Education is defined as education that is obtained after completing 12 years of schooling or equivalent.

Highlights of the AISHE report

The education ministry released its All India Survey for Higher Education 2021-22 report on Thursday, with details like student enrolment, teachers' data and infrastructural information of all higher education institutions in the country. A look at the key findings



Conclusion:

Although the enrolment rates have increased but it do not depict the lacunas that exist in the education delivery systems. Several schemes have been implemented for the betterment of the Indian Education system but still, there is a major chunk of the young population which is struggling with basic skills of reading and writing. Further, there is a need to increase the quality of higher education in India so that future India is full of young minds that are actively contributing to its development.



International Issue



1 Iran Launched Missile Attack on Pakistan

Why in News:

Iran's Revolutionary Guards Corps (IRGC) conducted an air strike in Pakistan's Baluchistan, in response to which Pakistan claimed that its army had also entered the Iranian border and attacked the alleged terrorist hideouts. The situation in South Asia became tense after this incident.

Key Points:

- IRGC conducted these attacks on the Iranian terrorist organization Jaish al-Adl present on the border of Pakistan. Jaish al-Adl (also known as the Army of Justice) was established in 2012.
- Its objectives include demanding independence for Iran's eastern Sistan province and Pakistan's south-western Baluchistan province, protecting the rights of the Baloch people, and fair distribution of resources in these regions.

Relations between Pakistan and Iran:

- Relations between Iran and Pakistan have been cordial since the creation of Pakistan. Iran was the first country to recognize Pakistan on 14 August 1947 and it is the country where Pakistan's first embassy was opened. Religion, energy and trade have been extremely important in the relations between the two countries. With the passage of time, both the countries have increased mutual cooperation in the defence sector also.
- When Pakistan fought a war with India in 1965, the Pakistani Army was aided by Iran in this war. Both countries were members of the US-led SEATO and CENTO defence agreements. Iran allowed Pakistani students to enter its universities because of which Pakistan considered the ruler of Iran as its biggest friend.
- In 1979, Ayatollah Khomeini's Islamic revolution and the Soviet Union's control over Afghanistan created a rift in the friendship between the two countries. It was because before the Islamic Revolution, there was an American puppet government in Iran, but as the relations between Iran and America deteriorated; Pakistan joined America to fight the Soviet Union. Pakistan with Saudi Arab formed the religious group Pashtun Mujahideen and armed it, while Iran supported the other group Tajik.
- Relations between the two countries reached at the lowest point when Iran's ambassador Sadiq Ganji was assassinated in Lahore, Pakistan in 1990. At the same time, cadets of Iran's Air Force

were also killed. Terrorism also created a big gap between the two countries which were once friends. Iran and Pakistan have been accusing each other that some militant groups are continuously engaged in cross-border terrorism.

Way Forward:

Iran's area is more than double that of Pakistan, while its population is about one-third of Pakistan's. Rich in natural resources, Iran has the second largest gas reserves, the fourth largest crude oil reserves and significant non-fuel mineral resources. The strategic location of both countries in the Indian Ocean increases their importance, that is why they should work together to promote peace, stability and development in the region, which can benefit for all citizens.

2 Jaishankar in Tehran, Discusses Chabahar Port, Red Sea Attacks

Why In News:

Foreign Minister S Jaishankar's was on a two-day visit to Iran. New Delhi and Tehran discussed the deteriorating regional security environment due to the maritime security crisis arising from the Houthi rebels and the renewed focus on India's partnership with Iran on Chabahar Port and the International North-South Transport Corridor (INSTC).

Rising Maritime Security Concerns :

- In Israel Gaza conflict Houthis rebels have launched drone and missile strikes aimed at targeting Israeli-linked commercial shipping in the Red Sea and beyond.
- Subsequently, the Indian Navy deployed Task Force Groups comprising destroyers and frigates, long-range maritime patrol aircraft and RPAs/drones.
- Notably, India has not joined Operation Prosperity Guardian, a multinational security mission under the aegis of Combined Maritime Forces' Task Force 153.
- India has preferred to complement the US-led mission, avoiding a direct association in the context of Hamas-Israel war, and United States.
- Major shipping companies have stopped using the Red Sea, through which almost 15% of global seaborne trade passes and are using a much longer route around southern Africa instead.

A Growing Connectivity Partnership:

- Regional connectivity is an important pillar of India-Iran relations which is a sustainable and long-term roadmap for India's continued

engagement towards the Chabahar project.

- Over the past two years, INSTC has gained momentum as a 'sanctions-free' route for Russia's trade with India and Iran.
- In parallel to the INSTC, India and Iran have found convergence in developing transit and transportation potential of Armenia in the Caucasus.
- Analysts see the new corridor as a tool of 'soft balancing' the growing cooperation between Turkey, Azerbaijan and Pakistan in the Caucasus. The first India-Armenia-Iran trilateral consultations were held in Yerevan in April 2023.

Way Forward:

To sum up, Jaishankar's visit is a timely reminder that India's partnership stands on its own, and Indian interests demand more rather than less engagement with Tehran. As India deepens cooperation with the United States and allies in West Asia, it is determined to maintain its long-standing independent vision for the region.

3 14th Ministerial Meeting of the India-United States Trade Policy Forum (TPF)

Why In News:

Recently, the 14th ministerial-level meeting of the India-US Trade Policy Forum (TPF) was held in New Delhi. It was co-chaired by the Commerce and Industry Minister of India and the US Trade Representative, Ambassador.

About India-United States Trade Policy Forum:

- This forum was established in July 2005 by both the countries to discuss the ways to promote trade and investment by solving the hindrances and deliver tangible benefits to both countries by resolving outstanding market access issues.

Key Points of Ministerial-Level Meeting:

- Both the ministers committed to laying the groundwork for future Joint Initiatives, focusing on critical areas like critical minerals, customs and trade facilitation, supply chains, and trade in high-tech products.
- A Joint Facilitative Mechanism will be established to address non-tariff barriers.
- Both countries pledged to adopt high-level principles on the digitization of trade documents during the G20 and support the implementation of these principles in other forum.
- Both sides encouraged expediting the future agreement on social security agreement which is important to increase service trade and support

Indian IT professionals working temporarily in the US.

- Both Ministers welcomed the finalization of the Turtle Excluder Device (TED) design, aiming to minimize the impact on sea-turtle populations and foster enhanced seafood trade.
- Discussions under the resilient trade working group continued, focusing on India's designation as a Trade Agreement Act (TAA) Compliant country.
- Emphasized the need to increase US Food and Drug Administration (USFDA) inspections in India to pre-pandemic levels, which is critical for the pharmaceutical sector.
- The ministers acknowledged the robust growth in India-US bilateral trade, likely surpassing \$200 billion in 2023.

Way Forward:

India-US Trade Relations regular engagements at various levels, including quarterly working group meetings and an inter sessional TPF meeting are planned. Although beyond the Trade Policy Forum, India and the US collaborate in various multilateral forums, including the QUAD (Quadrilateral Security Dialogue), I2U2 (India-Israel/ UAE-USA), and IPEF (Indo-Pacific Economic Framework).

4 India Acquires Lithium Blocks in Argentina

Why in News:

Recently Khanij Bidesh India Limited (KABIL), has taken a significant step towards securing its strategic mineral supply by acquiring five lithium blocks in Argentina.

Significance of the Deal:

- The acquisition of lithium blocks in Argentina is more than just a business transaction. It represents a strategic shift in India's approach to securing critical minerals.
- The step ensures strengthened and diversified sources of lithium supply for India and to reduce dependency on major suppliers.
- This agreement promotes cooperation between India and Argentina in developing their lithium mining and processing sectors.
- Around 54% of India's lithium imports come from China. The deal helps reduce excessive dependence on a major supplier.

The Scramble for Lithium:

- India has committed at COP-26, Glasgow, of cutting the emissions intensity of GDP by 45% and increasing the share of non-fossil fuels to 50% by 2030, and achieving net zero by 2070.

To achieve this, electric vehicles be very crucial, and lithium would be at the start of the supply chain.

- In recent years, the Indian government has increased its focus on electric vehicles with initiatives such as the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME) Scheme.
- In March 2022, India announced that it had approved incentives for four countries to boost battery production as part of its US\$2.4 billion production-linked incentive (PLI) scheme.
- India imports all of its lithium. According to a Press Information Bureau (PIB) report in 2022, 68.17% of lithium came from China, with Hong Kong taking second place at 25.48%.

Way Forward:

India's recent agreement with Argentina to acquire lithium reserves will pave the way for India's clean energy goals and diversification of its supply chain.

5 Third South Summit of G77 in Uganda

Why in News:

Recently V.Muraleedharan, Minister of State, Ministry of External Affairs represented India and addressed at the Plenary session of the Group of G - 77 Third South Summit, held in Uganda. He emphasised the pivotal role of the Global South as the world's "future growth engine".

About G- 77:

- It is the largest intergovernmental organization of developing countries in the United Nations. It was established through the signing of a joint declaration during the first session of the United Nations Conference on Trade and Development (UNCTAD) in Geneva in the year 1964.
- The purpose of this group is to provide the countries of the Global South with the means to promote their collective economic interests and enhance their joint negotiating capacity within the United Nations system and to promote South-South cooperation for development.
- There are 134 countries from Asia, Africa, South America, the Caribbean and Oceania.
- The first meeting of the G-77 was conducted at Algiers in 1967, where the historic Charter of Algiers was formally adopted. From that on the G-77's institutional structure evolved into a more permanent form.
- China is not part of this group.

Highlights of the Conference:

The MoS underscored the pivotal role of:

- Reaffirming Global South commitments.
- Exploring innovative development solutions.
- Reforming International financial architecture.
- Fostering South-South cooperation.

India's Role in the South Summit of G-77:

- India believes that multilateralism can be established with political will, exemplified by strengthening the Global South's voice and representation.
- Therefore during G-20 presidency India has been focusing on amplifying the 'voice' of the Global South in shaping global economic and monetary policies whose perspectives are often overlooked.

Way Forward:

Those who benefit most from the current global governance system are unlikely to lead reform. That's why UN Secretary-General Antonio Guterres said the pace of change must come from the G-77 which can lead to global cooperation to fulfill international commitments by improving global governance.

6 World Employment and Social Outlook Trends 2024

Why in News:

The World Employment and Social Outlook Trends 2024 report, recently released by the ILO, indicated that despite an increase in the workforce, the average number of working hours remains lower than pre-pandemic levels.

Important points:

- Working poverty rates and informality have approached pre-pandemic levels, according to the International Labour Organization (ILO), Global unemployment has reached its lowest level in 2023 since the onset of the pandemic as economies and workplaces reopened.
- Despite an increase in the workforce, the average number of working hours is often lower than pre-pandemic levels. Recently released the World Employment and Social Outlook Trends 2024 report by ILO highlights this trend.
- The total number of working hours increased globally between 2019 and 2023 due to strong post-pandemic employment growth. However, the difference between average and total hours worked grew, indicating a decrease in optimal worker utilization.
- Average weekly hours per worker were lower in 2023 compared to 2019 across all income groups, except for a slight increase in low-income countries. The percentage decrease in average hours worked in upper-middle-income countries

was less than 1%, and over 2% in high-income and lower-middle-income countries. Reasons for the reduction include an increase in part-time employment due to care duties, health reasons, and long-term health problems.

- The World Health Organization (WHO) defines Long COVID as a debilitating post-infection multi-system disease affecting anyone exposed to SARS-CoV-2. Long COVID contributes to an increase in sick days per person, leading to decreased mean working hours. Deteriorated health post-pandemic, attributed to Long COVID, is a significant factor in reducing mean working hours.
- WHO estimates that about 20% of individuals affected by COVID-19 experience Long COVID, influencing labor market metrics. Sectors experiencing substantial drops in mean hours worked include accommodation and food services, transportation and storage, information and communications, real estate, and professional, scientific, and technical activities.

Conclusion:

The International Labour Organization (ILO) has projected a global unemployment rate of 5.2% in 2024, slightly higher than the 5.1% in 2023. The World Employment and Social Outlook Trends 2024 report notes that working poverty will persist and income inequality will widen, emphasizing the need for greater social justice for a sustainable recovery.

7 Decline of population in China

Why in News:

On January 17, the Chinese government released data that said its total population stood at 1.4 billion. The year 2023 saw 11.1 million deaths and 9 million births in China, marking the second year in which the country's total population has reduced. In the same year, India overtook China as the most populous country in the world. The two consecutive declines are the first since the great famine of 1959-1961, and the trend is accelerating.

What is the recent trend about?

- Throughout much of recorded human history, China has boasted the largest population in the world. However, according to United Nations by the end of the century, the Chinese population is expected to shrink by 45%.
- The country has witnessed a significant population decline, the first decline since 1961 when the country was amid a four-year famine following the failed 'Great Leap Forward'

campaign.

- The fertility rate (average number of children born to women) currently in China is at 1.3, meaning that population shrinkage is inevitable without immigration and it for the first time in six decades, deaths in the previous year outnumbered births.

Reasons for this trend:

- By 2040, around a quarter of the Chinese population is predicted to be over the age of 65. One of the main reasons that is attributed for such conditions is "one-child policy" which introduced harsh measures such as forced abortions and high financial penalties.
- Also, there is a growing preference among young Chinese for getting married later and choosing to have fewer or no children.
- The Chinese government response to the population crisis:
- Scrapping of one-child policy - Beijing finally abandoned the one-child policy in 2016 and introduced the two-child policy. However, it failed to elicit the desired response because of high costs of healthcare and education.
- Introduction of three-child policy - In 2021, a three-child policy was rolled out in China including financial inducements for families with three children. It was pledged to address the economic factors such as healthcare costs and education expenses, by cracking down on expensive private education companies.

Impact of shrinking population on China:

On Economy:

- Labour availability - There will be fewer workers able to feed the economy and spur further economic growth.
- Shift in manufacturing base - With wages rising, many factories in the lower end of the manufacturing spectrum are already moving out to Southeast Asia and Bangladesh.
- Aged population - According to China's National Working Commission on Ageing, healthcare spending on the above-60 population will rise to 26% of the GDP by 2050.

On Society:

- The large number of aging parents with only one child to rely on will need emotional and social support as a result of extended life expectancy. The social pension systems in China further are highly segmented and unequally distributed.
- It will also impose constraints on those children themselves, who will need to fulfil obligations to their career, provide for their own children and support their elderly parents simultaneously.



Environmental Issue



1 National Framework for Climate Services

Why in News:

The India Meteorological Department (IMD) has launched a National Framework for Climate Services (NFCS) to reduce losses from climate hazards and extreme weather events.

About the National Framework for Climate Services:

- The National Framework for Climate Services (NFCS) will help to strengthen the collaborative efforts between various stakeholders for delivering full-value chain climate services in the country.
- On the lines of Global Framework for Climate Services, NFCS - India is premised to strengthen the production, availability, delivery and application of science-based climate monitoring and prediction services for sectors such as agriculture, health, energy and disaster management.
- The Indian Meteorological Department is the nodal agency for the formulation and implementation of the national framework in India.

Need of NFCS:

- IMD, which has entered its 150th year of existence in December 2023, makes daily weather forecasts and season predictions for the winter, summer and the monsoon seasons. It has gained a remarkable hold on providing high-quality weather services for the country and its South Asian neighbours.
- The accuracy of its weather and seasonal forecasts for the monsoons, cyclones, heatwaves and coldwaves, thunderstorms and lightning, snowfall, flash flood all of which primarily affect a vast country like India, have improved many folds.
- The Met department steadily upgraded the number of ground-based weather observation stations and radars. But, there remain many gap areas across terrains and the seas, wherein no weather data is available.
- There is a lack of long-term (100 years or more) climatological data from the Himalayan regions, the oceans, besides inexistence of radar and satellite-based climatology.

Global Framework for Climate Services:

- The announcement to establish a Global Framework for Climate Services (GFCS) was established during the third World Climate Conference held in Geneva in 2009.

- GFCS envisages generating high-quality data from national and international databases on temperature, rainfall, wind, soil moisture and ocean conditions and other vital weather parameters.
- The five major components under GFCS are:
 - » Observations and Monitoring,
 - » Research,
 - » Modeling and Prediction,
 - » Climate Services Information System,
 - » User Interface Platform and Capacity Building.

Conclusion:

To make better climate predictions, complete composite of climatological information of all the weather parameters is needed. Further, there is a need to integrate the weather and climate services with several sectors so that their potential can be further enhanced. With NFCS the observational network on land and the seas will be strengthened to improve the data inflow and eventually use it to run weather and climate models for deriving climate predictions.

2 World's Largest Deep-Sea Coral Reef

Why in News:

The world's largest deep-sea coral reef was recently uncovered near the southeast U.S. coastline. These dark-dwelling corals likely support a wide variety of marine creatures that may not have been previously discovered.

More about the News:

- In a new study, published on January 12 in the journal *Geomatics*, scientists collected data from a massive sloping shelf located around 100 miles (160 kilometers) off the U.S. coastline between North Carolina and Florida.
- Earlier these corals were known as “mounds” of deep-sea corals and were also called cold-water corals.
- These corals are spread almost continuously across an area covering 6.4 million acres (2.6 million hectares) between 1,640 to 3,280 feet (500 to 1,000 meters) beneath the surface.
- The highest abundance of corals was located in an area the researchers dubbed “Million Mounds,” which is around 158 miles (254 km) long and 26 miles (42 km) wide.
- The coral expanse lies directly beneath the Gulf Stream a deep, nutrient-rich current of warm water that runs northward along the eastern U.S. coast. The researchers believe this subsurface

superhighway likely provides the corals with all the food they need to thrive in such large concentrations.

About Deep sea corals:

- Deep-sea coral reefs are very different from tropical coral reefs. They dwell in waters that can reach as cold as 39 degrees Fahrenheit (4 degrees Celsius) and can live for thousands of years.
- Unlike tropical reefs, the deep-sea variants are mainly white because the cold water corals do not harbor the same colorful symbiotic algae that give their warm-water counterparts vibrant hues and provide them with energy via photosynthesis
- As a result, they look very similar to tropical reefs that have experienced coral bleaching, a disease where heat-stressed corals expel their symbiotic algae and die off.
- The newly discovered reefs are made predominantly of one species of coral, *Desmophyllum pertusum* (formerly known as *Lophelia pertusa*), with a small mix of other corals from the genera *Enallopsammia* and *Madrepora*.

Conclusion:

Coral reefs cover just a tiny fraction (less than one percent) of the earth's surface and less than two percent of the ocean bottom and yet they support thousand of species communities through effective recycling process. Because of this they are also known as the rainforests of the seas.

3 Insufficient Growth in World Renewable Energy

Why in News:

The International Energy Agency has reported that the world's renewable energy capacity has increased by 50%. However, it is not sufficient to meet the goal of tripling the World's renewable energy capacity by 2030 which was finalized in the COP28 climate summit.

Key Points:

- The increased deployment of solar and wind power while phasing out of fossil fuels in vehicles, industries and the domestic energy sector has paced up the global potential of renewable energy.
- The IEA report highlighted the contribution made by China-the biggest emitter of greenhouse gases in scaling up the renewable energy capacity. The agency called it "the world's renewables powerhouse".
- The installation of renewable energy sources is becoming more affordable than ever. As in many developed countries, onshore wind and solar

panels are less expensive now than fossil fuel plants.

- The prices of solar photovoltaic (PV) devices fell by 50% in 2023 compared to the previous year.

Why the global potential of renewable energy is not sufficient?

- Many executive heads of different global conservation groups have stated that the renewable energy generation was increasing "fast but not fast enough".
- The ambiguous targeting at the COP28 climate summit 2023 Dubai, though called for 'transitioning away' from fossil fuels, but without setting a timeline and fell short of the 'phase-out' demanded by many nations. Further, it was opposed by major oil exporters like Saudi Arabia.
- Along with this many developing countries are still finding it difficult to shift towards renewable energy as its installation and efficient production capabilities require advanced financing and technological development.

Way Forward:

The energy watchdog has reported that many developed countries like the USA, Europe, China and Brazil are also rapidly transitioning their energy production capacity towards sustainable means. However, it requires more thrust by global financing agencies like the World Bank and IMF to provide cheaper finance to developing countries for sustainable and affordable transitioning.

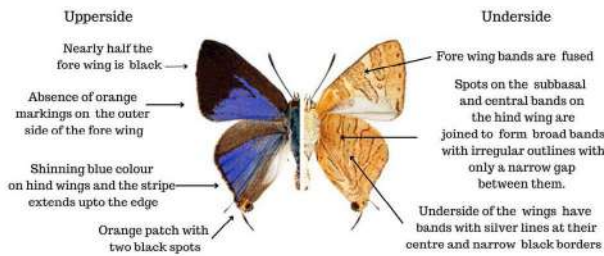
4 New Butterfly Species Found in Western Ghats

Why in News:

A team of scientists from the National Centre for Biological Sciences (NCBS-TIFR) in Bengaluru, in collaboration with researchers from the Indian Foundation for Butterflies Trust have identified new species of silverline butterfly in the in India's Western Ghats in Karnataka.

About the species:

- This unique species, named *Cigaritis conjuncta* or the "conjoined silverline", belongs to the Lycaenidae family. It was first spotted in 2008 but came under extensive research in 2021.
- In India, there are 16 species of silverline butterflies, with 11 of them found in both peninsular India and Sri Lanka. While these butterfly species are widespread in India, some are limited to the Himalayan region.
- The newly described conjoined silverline butterfly is only the second endemic species discovered in the Western Ghats and is primarily found in dense mid-elevation evergreen forests, indicating specialized habitat preferences.



Morphology:

- On the upper side of this butterfly, nearly half of the top wing is black, and there's a shiny blue color on the lower wings. There is an orange patch with two black spots on the lower wings and the outer edge of the top wing does not have any orange markings.
- On the underside, bands of colors are visible. The bands on the top wings are fused together without separation, and the lower wings have spots that are connected to form broad bands with irregular outlines.
- The underside also features bands with silver lines down the center and thin black borders along the edges.

Conclusion:

The discovery of un-described species with specialized habitat preferences is especially encouraging for the researchers and the scientists, fuelling the drive for further biodiversity documentation and conservation.

5 Impact of Climate Change on India's Rainfall Patterns

Why in News:

According to a study by CEEW, a climate crisis has impacted India's rainfall patterns with 55% of the country's tehsils recording an over 10% increase in the southwest monsoon rainfall from 2012 to 2022. This 10% increase has been compared with a climatic baseline from 1982 to 2011.

Key findings of the study:

- The study titled 'Decoding India's Changing Monsoon Patterns' by Independent think-tank 'The Council on Energy, Environment and Water' (CEEW) throws light on the shift in rainfall patterns to the accelerating rate of climate change.
- The study analyzed 40-year rainfall data for more than 4,500 tehsils across India and found that 11% of the sub-districts saw a reduction in the southwest monsoon rainfall in the 10-year period.

- The data showed that almost 30% of India's districts witnessed a high number of deficient rainfall years, while 38% saw a high number of excessive rainfall years.
- Of these, 23% of districts including New Delhi, Bengaluru, Nilgiris, Jaipur, Kutch and Indore witnessed both a high number of deficient, as well as excessive rainfall years. There are almost 717 districts in the country from where the India Meteorological Department (IMD) collects monsoon data.

Impact on Indo-Gangetic plains:

- The tehsils that recorded deficient rain are located in the rain-fed Indo-Gangetic plains, northeast India and the upper Himalayan region. These areas are crucial for agricultural output and are home to fragile ecosystems particularly vulnerable to extreme climate events.
- Nearly a quarter of the tehsils studied in traditionally drier regions like Rajasthan, Gujarat, central Maharashtra, and parts of Tamil Nadu saw a pronounced rainfall increase of over 30% during the June to September period.
- It also found that the increased precipitation in these tehsils is the result of frequent short-duration, heavy rainfall events which often lead to flash floods.

Impact on Northeast monsoon:

- The northeast monsoon rainfall, which primarily impacts peninsular India, has increased by more than 10% in the past decade (2012-2022) in approximately 80% of tehsils in Tamil Nadu, 44% in Telangana, and 39% in Andhra Pradesh.
- The report said that on a monthly basis, nearly 48% of tehsils in India saw an increased rainfall in October by more than 10%, which could be due to the delayed withdrawal of the southwest monsoon from the subcontinent.

Conclusion:

The study recommended close mapping of the monsoon performance at more localized level which is crucial for building resilience against monsoon variability. The climate change adaptability is crucial for such resilience. The IMD's recently launched mission 'Panchayat Mausam Seva' is a major step in this regard which aims to take weather forecasts to every farmer in every village.

6 Urbanisation

Why in News:

The recent study on Bhubaneswar, a tier-II city of Odisha, has highlighted that city is rapidly urbanising. For example, the built-up area in the city

increased by about 166% during the period 2004-2015. Studies using satellite-based observations showed a night-time heat dome over the city with an elevated temperature (about 1°C). Such warming is particularly higher in the newly urbanising areas in the periphery of the city, experiencing almost doubled warming over the same period.

Factors causing increase in temperature:

- Change in the micro-climate and their relation to different factors such as climate change, city expansion, change in vegetation cover, etc. have impacted the city. It was quantified that almost 60% of the overall warming observed over the city is due to local activities/changes.
- Structures such as buildings, roads, and other infrastructure absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies. Urban areas, where these structures are highly concentrated and greenery is limited, increase the temperature.
- Moreover, the dispersion of temperature is decreased as there is decrease in the wind speed in eastern Odisha.

Overview of the Cities:

- More than half of the world's population now resides in the cities and are thus vulnerable to urban climate change such as increased heat stress and extremes. Globally, cities contribute to more than 80% of the global GDP and 75% of all greenhouse gases/carbon emissions. Thus, they are both contributors to climate change and also potential agents for tackling it. However, their representation in Nationally Determined Contributions (NDCs) and National Adaptation Plans is inadequate.
- In recent times, the inclusion of the 11th sustainable development goal (SDG) which exclusively focuses on cities and the formation of groups like the U-20 under the G-20 umbrella have acknowledged the need for city-level action plans.
- Further, the ministerial meeting on urbanisation and climate change at COP-28 stressed the importance and role of cities in achieving climate change mitigation and adaptation targets. These initiatives show the importance attached to cities and their role in global affairs including climate change mitigation and adaptation.

Conclusion:

Although climate change is the biggest driver of temperature rise in cities, the new study highlights the role of local activities in causing rising temperatures. The need of the hour is to work on both factors like climate change and local activities to tackle urban warming.

7 Greenland Lost More Ice Cover Than Previously Predicted: Study

Why in News:

The researchers in the United States compiled nearly 2,40,000 satellite images of glacier terminus position and have concluded that that Greenland has lost more ice cover than it was previously predicted.

More about the News:

- The study compiled nearly 2,40,000 satellite images of glacier terminus position (where glaciers meet the ocean) from 1985 to 2022, and has pointed out climate change has caused Greenland's ice sheet to lose 20% more ice than previously thought.
- Earlier studies have found that about 5,000 gigatons of ice has been lost from the surface of the Greenland ice sheet in the past two decades, a major contributor to rising sea levels.
- However, the present study found that over 1,000 gigatons (1 gigaton is equivalent to 1 billion tons), or 20%, of ice around the edges of Greenland had been lost over the past four decades which has not been accounted for.
- The researchers of study nevertheless have stressed that this would have had a minimal direct impact on sea level rise since the ice at the island's edges is already in the water. However this could trigger further overall ice melt, allowing glaciers to more easily slip towards the sea.
- Further, researchers found that the Greenland glaciers most susceptible to seasonal changes (that is expanding in winter and retreating in summer) are also the ones most sensitive to the impact of global warming and these glaciers have experienced the most significant retreat since 1985.

Conclusion:

The melting of Greenland's vast ice sheet, the world's second-largest after Antarctica, is estimated to have contributed more than 20% to observed sea level rise since 2002. According to the UN Atlas of Oceans, 8 out of the 10 world's largest cities are close to the coast. Increasing sea levels will cause high tides, floods, and storms to occur more frequently. It will lead to threats to local economies and infrastructure. Such glacier retreat may also cause melting of zombie ice, also referred to as dead or doomed ice. Zombie ice is one that is not accumulating fresh snow even while continuing to be part of the parent ice sheet. Such ice is "committed" to melting away and increasing sea levels.



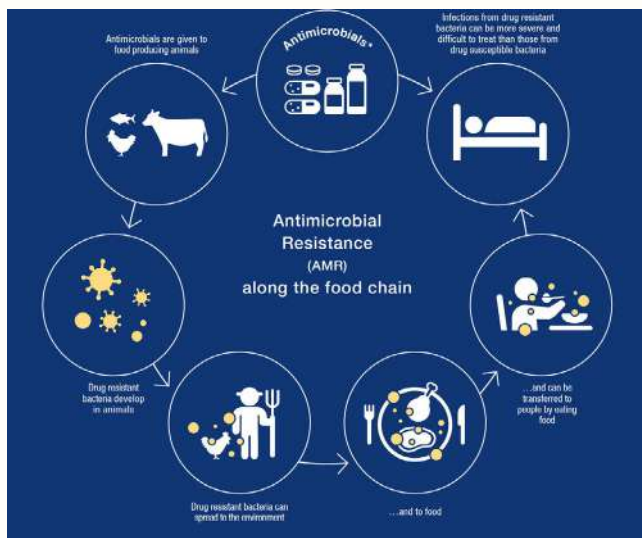
1 Combating Antimicrobial Resistance

Why in News:

In a proactive response to the escalating challenge of antimicrobial resistance, the Union Health Ministry in India has issued a directive to doctors, urging them to document the reasons when prescribing antibiotics. The urgency of this appeal is underscored by the burgeoning threat of drug-resistant pathogens, necessitating a paradigm shift in the prescription practices of medical professionals.

What is Antimicrobial Resistance (AMR)?

- Antimicrobial Resistance (AMR) is a phenomenon that occurs when microorganisms, such as bacteria, viruses, fungi, and parasites, undergo changes over time, rendering them less responsive or entirely unresponsive to the medicines designed to combat them.
- In simpler terms, it is the ability of these pathogens to adapt and evolve in a way that makes the drugs meant to treat infections increasingly ineffective.



Government's Plea to Medical Colleges for Exemplary Practices:

- In a letter addressed to medical colleges, Union Director General of Health Services has advocated for setting an example of judicious antibiotic use. The appeal, directed at doctors in medical colleges, emphasizes the imperative to incorporate precise indications, reasons, or justifications when prescribing antimicrobials.
- By instilling these practices in the training of

future healthcare professionals, the government aims to foster a culture of responsible antibiotic use.

Legal Compliance and Record Keeping:

- The message to pharmacists reinforces the existing legal framework, stressing that adherence to prescription regulations is not just a moral duty but a legal obligation. The records of sale for Schedule H1 drugs, encompassing potent third and fourth-generation antimicrobials, must be meticulously maintained for a duration of three years. This meticulous record-keeping serves as a deterrent against any potential malpractice or unauthorized sales.

Addressing the Menace of Misuse and Overuse:

- Acknowledging the pivotal role played by misuse and overuse of antimicrobials in the development of drug-resistant pathogens, the government underlines the critical need for prudent antibiotic use. With a dearth of new antibiotics in the research and development pipeline, the appeal calls for collective support in promoting judicious antimicrobial use. The government's plea resonates against the backdrop of a survey revealing that a staggering 71.9% of patients in tertiary care hospitals were prescribed antibiotics, with over half of these prescriptions aimed at preventive rather than curative measures.

Way Forward:

The government's multifaceted approach, encompassing doctors, pharmacists, and medical colleges, signifies a united front against the ominous rise of antimicrobial resistance. By instilling responsible prescribing practices and reinforcing legal compliance, the nation endeavors to safeguard the efficacy of antibiotics, preserving them as a crucial cornerstone of modern healthcare.

2 ISRO's 2nd Generation Distress Alert Transmitter for Fishermen

Why in News:

The Indian Space Research Organisation (ISRO) has developed a second-generation Distress Alert Transmitter (DAT-SG), that incorporates advanced satellite communication and navigation capabilities. This development builds on the success of the operational first-generation DAT, with over 20,000 units currently in use since 2010.

Real-Time Emergency Communication:

- The DAT-SG allows fishermen at sea to send emergency messages from their boats, receiving

real-time acknowledgments. Messages are transmitted through communication satellites and decoded at the Indian Mission Control Centre (INMCC), revealing the identity and location of the distressed fishing boat. This critical information is then forwarded to Maritime Rescue Co-ordination Centres (MRCCs) under the Indian Coast Guard (ICG).

Advanced Features of DAT-SG:

- With advancements in satellite communication and navigation, ISRO has enhanced the DAT to its second generation. The DAT-SG not only transmits distress signals but also features a unique capability to send acknowledgments back to fishermen activating the distress alert. This two-way communication ensures that fishermen receive assurance that a rescue team is en route.

Proactive Emergency Alerts and Navigation Assistance:

- The DAT-SG's advanced capabilities extend to receiving messages from the control center, allowing for the dissemination of advance alerts about adverse weather conditions, cyclones, tsunamis, or other emergencies. This enables fishermen to make informed decisions, either returning home or seeking safer locations. Additionally, the transmitter provides information about Potential Fishing Zones (PFZs) to optimize catch and save time and fuel.

Integration with Mobile Devices:

- The DAT-SG can be seamlessly connected to mobile phones through Bluetooth, and messages can be read in the native language using a dedicated app. This integration facilitates efficient communication between fishermen and the control center.

SAGARMITRA:

- The INMCC employs a web-based network management system called 'SAGARMITRA.' This system maintains a comprehensive database of registered DAT-SGs, enabling MRCCs to access real-time information about distressed boats, including coordinates. This swift response mechanism ensures that the Indian Coast Guard can undertake Search & Rescue operations promptly, minimizing delays during distress situations.

Way Forward:

The inauguration of the DAT-SG marks a significant milestone in maritime safety, emphasizing ISRO's commitment to leveraging technological advancements for the welfare of fishermen. With 24x7 operational capabilities, the DAT-SG stands as a beacon of hope for the fishing community, ensuring their safety at sea.

3 Soil-Powered Fuel Cell

Why in News:

Scientists at Northwestern University have developed a soil-powered fuel cell that harnesses energy from microbes residing in the soil. This innovative technology, roughly the size of a book, has the potential to revolutionize the energy landscape, particularly in green infrastructure and precision agriculture applications.

Need for Sustainable Alternatives:

- Traditional batteries, laden with toxic and flammable chemicals, have raised environmental concerns, especially when utilized in soil. Additionally, the manufacturing processes of conventional batteries contribute to electronic waste and are often associated with conflict-affected supply chains. The soil-powered fuel cell emerges as a promising sustainable and renewable alternative, eliminating the risks posed by hazardous materials.

Testing and Applications:

- The researchers conducted extensive tests, employing the fuel cell to power sensors capable of detecting touch and measuring soil moisture. Results, published in the Proceedings of the Association for Computing Machinery, showcased the fuel cell's viability in supporting decentralized networks of devices, particularly in the Internet of Things (IoT). The applications range from tracking animals through touch-sensitive sensors to transmitting data wirelessly via a tiny antenna attached to the soil-powered sensor.

Endless Energy Source:

- Unlike traditional microbial fuel cells (MFCs), which face challenges in low-moisture conditions, the newly developed fuel cell boasts a unique geometric design. Departing from the conventional parallel arrangement of anodes and cathodes, this fuel cell employs a perpendicular design. This innovation ensures consistent airflow, even when buried, and addresses the issue of hydration and oxygenation crucial for MFC operation in dry dirt.

Geometry Matters:

- The perpendicular design facilitates a flush surface with the ground, capped with a 3D-printed cover to protect against debris. An air chamber, along with a strategically placed hole, enhances airflow. The lower end of the cathode, crucial for maintaining hydration, remains nestled beneath the soil surface. The researchers discovered that this design generated 68 times the power

required for sensor operation, demonstrating resilience in the face of significant changes in soil moisture.

Accessibility and Longevity:

- Researchers have highlighted that all components of the soil-powered MFC can be sourced from local hardware stores. Theoretically, as long as microbes and organic carbon exist in the soil, the fuel cell has the potential to operate indefinitely, presenting an attractive prospect for sustainable and enduring energy solutions.

Way Forward:

The soil-powered fuel cell marks a significant stride toward environmental friendly energy alternatives. Its innovative design, reliance on abundant natural resources, and versatility in applications position it as a promising candidate for powering the next generation of IoT devices and contributing to a more sustainable future.

4 Malaria Vaccine Rollout

Why in News

Cameroon is poised to achieve a groundbreaking feat by becoming the first country to systematically administer the new malaria vaccine, Mosquirix. This marks a pivotal moment in the global effort to combat malaria, particularly in sub-Saharan Africa, where the World Health Organization (WHO) licensed the use of Mosquirix in 2021 for children facing moderate-to-high Plasmodium falciparum malaria transmission.

About Malaria:

- Malaria presents a range of symptoms that can vary in severity and manifestation. Common symptoms include fever, chills, sweats, headaches, muscle aches, and fatigue. Other symptoms may include nausea, vomiting, and diarrhea. In severe cases, malaria can lead to complications such as anemia, respiratory distress, organ failure, and in extreme cases, death. The severity of symptoms often depends on the species of the Plasmodium parasite causing the infection.

Treatment:

- Malaria typically involves antimalarial medications. The choice of medication depends on factors such as the species of the parasite, the severity of the infection, and the patient's age and health condition. Artemisinin-based combination therapies (ACTs) are commonly used and have proven to be effective against malaria. However, drug resistance is a growing concern and emphasizes the need for ongoing research

- and the development of new antimalarial drugs. Preventive measures are crucial in malaria control, especially in endemic regions.

Vector Control:

- Since malaria is transmitted through the bites of infected mosquitoes, vector control is a fundamental prevention approach. This includes the use of insecticide-treated bed nets, indoor residual spraying of insecticides and environmental management to reduce mosquito breeding sites.

Chemoprevention:

- In areas with high malaria transmission, preventive antimalarial drugs may be given to vulnerable populations, such as pregnant women and young children, to reduce the risk of infection.

Personal Protective Measures:

- Individuals can protect themselves by using insect repellents, wearing long-sleeved clothing, and sleeping under insecticide-treated bed nets.

Prompt Diagnosis and Treatment:

- Early diagnosis and treatment of malaria cases are crucial to preventing severe illness and death. Rapid diagnostic tests (RDTs) and microscopy are common methods for diagnosing malaria.

Vaccination:

- The development of a malaria vaccine, such as the RTS,S/AS01 vaccine, represents a significant step in malaria prevention. While not a perfect solution, vaccines can contribute to reducing the burden of the disease.

Way Forward:

Cameroon's initiative with the Mosquirix vaccine, supported by GAVI, represents a significant stride in the fight against malaria, offering hope for a healthier future for vulnerable populations in sub-Saharan Africa and beyond.

5 Tamil Nadu Study Links Scrub Typhus to Rainfall and Humidity

Why in News:

A study conducted in Tamil Nadu's Vellore establishes a compelling correlation between meteorological factors and the prevalence of scrub typhus, shedding light on the climate impact on vector-borne diseases.

Rainfall's Role - A Quantitative Revelation:

- The study, conducted over 15 years, reveals a quantifiable link between rainfall and scrub typhus cases. For every millimeter increase in rainfall, there is a corresponding surge of 0.5% to 0.7% in monthly scrub typhus cases. This underlines the intricate relationship between climatic patterns and the transmission of

infectious diseases, particularly in regions vulnerable to such vector-borne threats.

Humidity Amplifies Scrub Typhus Incidence:

- Delving deeper into meteorological factors, the research highlights a notable uptick in monthly scrub typhus cases by 7.6% for each percentage increase in mean relative humidity. This emphasizes the critical role humidity plays in creating favorable conditions for the proliferation of *Orientia tsutsugamushi*, the bacteria causing scrub typhus.

Scrub Typhus - A Climate-Sensitive Infectious Menace:

- **Disease Dynamics and Climatic Factors:** Scrub typhus, caused by *Orientia tsutsugamushi* and transmitted through infected mites, exhibits a complex interplay with climatic elements. The study scrutinizes the association of temperature, rainfall, and humidity with scrub typhus prevalence, revealing a dynamic interaction that influences the disease's seasonal patterns.
- **Seasonality and Severity:** The disease, characterized by symptoms such as fever, headache, and body ache, exhibits seasonality in endemic areas. The research indicates a peak in cases from August to February, aligning with cooler months. Severe cases can lead to respiratory distress, organ failure, and, in fatal instances, death.

Implications for Healthcare and Prevention Strategies:

- **Proactive Healthcare Measures:** The findings underscore the importance of early diagnosis and treatment during the rainy season and cooler months with heightened humidity. As rainfall and humidity emerge as key contributors to scrub typhus incidence, healthcare professionals are urged to be vigilant and prepared for potential outbreaks during these periods.
- **Demographic Vulnerabilities and Socioeconomic Impact:** The study identifies specific demographic and socioeconomic vulnerabilities. Individuals in the third decade of life, particularly those older than 60 years, exhibit a higher prevalence rate. Furthermore, farmers, daily wage laborers, and housewives are identified as more susceptible, emphasizing the need for targeted preventive measures within these communities.

A Global Perspective on Scrub Typhus and Future Preparedness:

- **International Relevance:** While this study focuses on Tamil Nadu, similar patterns have been observed in other regions globally, including China, Nepal, South Korea, and Japan. Understanding these climate-health linkages provides a foundation for global efforts in

anticipating and mitigating the impact of scrub typhus and related infectious diseases.

- **Importance of Vector Control Strategies:** In light of the findings, the study reinforces the significance of implementing robust vector control strategies, particularly during periods of elevated rainfall and humidity. These measures are crucial for breaking the transmission cycle and safeguarding vulnerable populations from the health implications associated with scrub typhus.

Conclusion:

The research provides valuable insights into the environmental and socioeconomic factors influencing scrub typhus incidence. Understanding these associations can aid in the development of targeted public health strategies to prevent, diagnose, and treat scrub typhus in affected regions.

6 Three- Drug Regimen to Accelerate Leprosy Eradication

Why in News:

Ministry of Health and Family Welfare has announced a new three-drug regimen for leprosy, aiming to halt transmission at the sub-national level by 2027, three years ahead of UN Sustainable Development Goals. The decision is based on global scientific research, and the World Health Organization will supply the revised drug regimen from April 1, 2025. The treatment aims to improve efficacy and contribute to the collective effort to eradicate leprosy in India.

About Leprosy:

- Leprosy, also known as Hansen's disease, is a chronic infectious disease caused by *Mycobacterium leprae*. The disease affects the skin, the peripheral nerves, mucosal surfaces of the upper respiratory tract and the eyes. Leprosy is known to occur at all ages ranging from early childhood to old age. Leprosy is curable and treatment during early stages can prevent disability. Leprosy is transmitted via droplets, from the nose and mouth, during close and frequent contact with untreated cases.

Symptoms:

- Definite loss of sensation in a pale (hypopigmented) or reddish skin patch.
- Thickened or enlarged peripheral nerve, with loss of sensation and/or weakness of the muscles supplied by that nerve.
- Presence of acid-fast bacilli in a slit-skin smear.

Implementation and WHO Support:

- To ensure a smooth transition, the World Health Organization (WHO) has endorsed the revised

drug regimen, and it is slated to supply the drugs starting April 1, 2025. The new treatment approach aligns with the WHO's established protocol, which includes dapsone, rifampicin, and clofazimine as part of the Multi-Drug Therapy (MDT)

Logistical Preparedness and Timely Requisitions:

- To facilitate the seamless implementation of the new regimen, the Indian Health Ministry has urged all States and Union Territories to submit their requisitions for anti-leprosy drugs a year in advance. This proactive measure aims to pre-emptively address any potential logistical challenges, ensuring a timely supply of drugs for the revised treatment regimen starting April 1, 2025.

Global Impact and Contribution to Eradication of Goals:

- Leprosy, a chronic infectious disease caused by *Mycobacterium leprae* bacteria, poses a significant public health challenge globally. India's adoption of an innovative three-drug regimen positions the country as a leader in the international efforts to eradicate leprosy. The initiative aligns with the broader global agenda for sustainable development and reinforces India's commitment to achieving the UN's Sustainable Development Goals.

Expert Insights and Considerations:

- While the two-drug regimen has demonstrated efficacy in the past, experts acknowledge that the inclusion of a third drug can potentially improve treatment outcomes.

Way Forward:

India's announcement of a three-drug regimen for leprosy treatment reflects a bold and forward-thinking approach in the quest for disease eradication. The initiative's reliance on scientific research, global collaboration, and proactive measures positions India as a key player in the international community's collective fight against leprosy, aiming to achieve a significant milestone by 2027.

7

Cannabis Compound as Potential Antibiotic

Why in News:

Scientists at the CSIR-Indian Institute of Integrative Medicine (IIIM), Jammu, have uncovered the antibiotic properties of phytocannabinoids, compounds found in the cannabis plant. The study, published in ACS Infectious Diseases, focuses on the potential of tetrahydrocannabinol (THCBD) to combat antibiotic-resistant strains, particularly methicillin-resistant *Staphylococcus aureus* (MRSA).

Antibiotic Resistance Challenge:

- Antimicrobial resistance (AMR) poses a significant global health threat, rendering conventional antibiotics ineffective against bacterial infections. The researchers at CSIR-IIIM Jammu sought alternative solutions to address the challenges posed by AMR, particularly in the case of MRSA, responsible for a substantial number of deaths worldwide.

THCBD's Antibacterial Efficacy:

- The study demonstrated that THCBD, derived from cannabis, exhibits potent antibacterial properties against multiple MRSA strains. The researchers meticulously tested THCBD against bacterial cultures, revealing its efficacy in reducing viable microbial cells, especially in skin infections caused by *S. aureus*.

Mechanism of Action:

- THCBD showcased effectiveness against mechanisms developed by bacteria, such as efflux pump overexpression, contributing to its potential as a novel therapeutic candidate. Additionally, the study highlighted THCBD's compatibility with existing antibiotics like mupirocin, penicillin G, and ciprofloxacin, suggesting the possibility of combination therapies.

Challenges and Future Directions:

- Despite the promising findings, the study acknowledges the need for further research to transform THCBD into a viable drug. Overcoming hurdles such as comprehensive safety profiling and addressing solubility challenges are essential steps in this journey. The researchers express eagerness to collaborate and expedite progress, emphasizing the importance of a unified national policy for cannabis research.

Policy Implications and Taboo Surrounding Cannabis:

- The study sheds light on the legal constraints and regulatory challenges associated with cannabis research in India. The researchers advocate for a national policy shift, highlighting the antibacterial nature of cannabis to circumvent the existing taboo and position it as a valuable resource in the fight against AMR.

Way Forward:

The discovery of THCBD's antibiotic properties marks a significant advancement in the quest for new strategies against antibiotic-resistant bacteria. As researchers navigate regulatory complexities and collaborate to refine THCBD into a potential drug, this study opens avenues for innovative approaches in combating the growing threat of antimicrobial resistance.



Economic Issues



1 54th Annual Meeting of World Economic Forum

Why in News:

The 54th annual meeting of World Economic Forum was held from 15-19 January in Davos, Switzerland. The agendas of the meeting involved some critical topics of the business world including skilling revolution, sustainable business strategies and impact of generative AI on the future of work.

:- Prelims Insights :-

Major Reports by WEF: WEF regularly publishes globally recognized reports, including the Global Competitiveness Report and the Global Gender Gap Report, Energy Transition Index, Global Risk Report, Global Travel and Tourism Report.

Highlights of the meeting:

Job Creation:

- The forum's Global Risks Report 2024 ranked lack of economic opportunity as one of the top 10 biggest risks around risk experts over the next two years.
- In this regard, the meeting focused on examining the trends that will shape the future of jobs. The session also explored recommended policies & employer and worker responses to navigate these challenges.

Gender Gaps:

- The meeting highlighted the potential gains from closing economic gender gaps which could unlock a "gender dividend" of \$172 trillion for the global economy. Further, investment in women's health could boost the global economy by \$1 trillion annually by 2040.
- In the context of India, the Global Good Alliance for Gender Equity and Equality was announced with the support and endorsement of WEF and the Government of India.

Artificial Intelligence:

- The IMF's "Gen-AI: Artificial Intelligence and the Future of Work" report, unveiled at Davos, up to 60% of jobs in advanced economies are at risk due to AI.
- While many transformational abilities of AI for human welfare were discussed in the meeting, it also emphasized on the need for regulation, fear of job losses, the risks of impersonation and misinformation, and the inequalities it can

potentially worsen.

Climate change and Clean Energy Transition in India:

- The meet acknowledged that India's consumption is growing three times the global average. In the next 20 years or so, India will account for 25% of the world's energy demand. For India to achieve net-zero emissions by 2070 as planned, it needs to pursue non-traditional methods for energy generation.
- However, India has launched initiatives like Green Hydrogen, Biofuels and the International Solar Alliance and proposed a global grid for renewables. It ranks 67 out of 120 countries on the Forum's Energy Transition Index (ETI) 2023, showcasing steady improvements across the three dimensions of the energy triangle over the past decade: equitable, sustainable and secure.

Conclusion:

The sentiments regarding India in WEF were echoed by industrialist Gautam Adani, who posted on social media that "If the first major theme at WEF 24 was about rebuilding trust, the second was about the rise of India." The meeting highlighted the rapid transformation of India as one of the fastest growing large economies in the world. The leaders emphasized that when it comes to technology, talent, healthcare, and other areas, its future in 2024 and beyond, India is worth paying attention to.

2 State Start-up Ranking 2022

Why in News:

The Union Ministry of Commerce and Industry has recently released the State Startup Ranking 2022.

About the Report:

- Since 2018, the Department for Promotion of Industry and Internal Trade (DPIIT) has been ranking the states' policy efforts to build an ecosystem favorable to startup growth. It tracks the evolution of policies and overall efforts of states.
- The Ranking classifies States and Union Territories into 5 Categories:
 - » Best Performer
 - » Top Performer
 - » Leader
 - » Aspiring Leader
 - » Emerging Start-up Ecosystem
- The 2022 ranking framework focused on seven reform areas- building institutional support, fostering innovation and entrepreneurship, access to the market, Incubation and Mentoring

- support, funding support, capacity building for enablers and Roadmap to a Sustainable Future.
- For the first time since the inception of the ranking framework, the evaluation of state and UT ecosystems has incorporated the critical dimension of sustainability.
 - Gujarat, Karnataka, Kerala and Tamil Nadu lead the State Startup Ranking 2022 as Best Performers, the top category in the ranking.
 - Maharashtra, Odisha, Punjab and Rajasthan are ranked as Top Performers. Andhra Pradesh, Assam, Madhya Pradesh, Uttar Pradesh and Uttarakhand have been ranked as leaders.
 - Bihar and Haryana are listed as Aspiring Leaders and Chhattisgarh, Delhi and Jammu and Kashmir are listed as Emerging Startup Ecosystems.

The Start-up ecosystem in India:

- The report mentions that the number of recognized start-ups have grown at 120% (CAGR) over the last 7 years and stands at over one lakh start-ups as of October 2023. The report also highlighted that the average years from the first funding round to IPO have come down from 9.9 years in 2022 to 9.4 years in 2023.

Conclusion:

The State Start-up Ranking Exercise aims to support states and union territories in developing their start-up ecosystem and learn from the best practices in each state and union territory. The role of the state government becomes very important in developing the necessary infrastructure and support to foster the startup ecosystem. The shift in global focus is on promoting women entrepreneurs and fostering an inclusive and innovative environment. Due to the given constraints of infrastructure and supporting services, India needs to build upon low-cost and high-impact solutions.

3 India's Growing Stock Market

Why in News:

The Indian Stock Market has superseded the Hong Kong's Stock Market, which has made it the Fourth-largest stock market. The combined value of shares listed on Indian exchanges reached \$4.33 trillion on 22nd January, 2024.

What led to this growth:

- The world's stock markets are facing strong turbulence due to wide global economic headwinds, geopolitical conflicts in the Middle East and the European region. However, the Indian economy is providing fine and sound investment arena for domestic and global investors.

- These are the significant reasons behind this outstanding growth:-
 - » India's stock market capitalization crossed \$4 trillion for the first time on 5 December 2023. Of this about half has been invested in last four years.
 - » The strong GDP growth forecast and resilient industrial growth.
 - » Relatively manageable inflation rates with respect to surging global inflation rates.
 - » The relatively flexible or monetary easing policy of Indian Central Bank and tightening monetary policy of other countries' Central banks (U.S.A and EU) has painted a bright picture for India.
 - » Strong and positive forecast for Indian economy by World Credit agencies like Moody's and CRISIL.

Other Positive Signs for India:

- The net Foreign Portfolio Investors' (FPIs) strong inflow has supported the stocks to march towards all-times high.
- **Political Stability for Indian Economy:** The stable political setup in India has given a firm sense of policy stability. Along with this India has also become the most populous country of the World. So it has provided the alternative to invest fresh capital in huge emerging market.

Global Economic Headwinds:

- The top stock markets of World- U.S.A, China and Japan are struggling with internal and outbound geo-political tensions. There are reportedly regulatory crackdowns on corporations, priority sector- crisis in China which have resulted into the sluggish economic growth rate.

Indian Stock Markets:

- The stock markets are platform where buyers and sellers meet to exchange equity shares of the public (listed) corporations.
- India has two stock exchanges namely – the Bombay Stock Exchange and the National Stock Exchange.
- SEBI is the regulator of the securities market in India.

Way Forward:

The stock market gives the significant insights of any economy to the global investors. It also supports the larger position of India at international trade platforms because many foreign investors have vested interests in country's growth. Therefore this is positive sign for India to become 3rd largest economy in world. "These are the financial instruments required by the investors to invest in India without having to register themselves with the Securities and Exchange Board of India."

4 Global Trade Research Initiative

Why in News:

Global Trade Research Initiative (GTRI) has released its report titled, 'India's challenges in the FTA negotiations with Switzerland and other EFTA countries'. The report has examined the issues India faces amid ongoing negotiations for FTA between India and European Free Trade Association. According to the report, trade agreement in the current format will not help Indian exports and will result in higher imports and wider trade deficit.

Highlights of the report:

Large trade deficit:

- India's large trade deficit with Switzerland and Switzerland's decision to remove import duties on almost all industrial goods for all countries starting January 1 would limit gains for India under the proposed trade agreement with EFTA bloc.

The Services Sector:

- The agreement although aims to open up sectors like IT, finance, tourism, and education, allowing Indian and EFTA service providers to operate in each other's markets with fewer restrictions, the potential gains in services are limited.
- Since countries typically agree to bind existing levels of policy commitments, implying a continuation of the status quo. Switzerland's stance on India's request for priority visas for Indian professionals could prove to be another sticking point.

Gold Imports:

- Gold which accounts for 80% of India's imports from Switzerland, is another critical factor. If the agreement does not include gold, it may not meet a WTO (World Trade Organization) provision for FTAs to have duty cuts on substantial trade.

Intellectual Property Rights:

- EFTA countries' request for TRIPS (Trade Related Aspects of Intellectual Property Rights) plus protection for strengthening of Intellectual Property Rights (IPRs), especially patents and copyrights in India will conflict with India's domestic regulations.

India and EFTA countries:

- EFTA is an intergovernmental organization for the promotion and intensification of free trade comprising Iceland, Liechtenstein, Norway and Switzerland.
- India's exports to EFTA countries during 2022-23 stood at \$1.92 billion as against \$1.74 billion in 2021-22. Imports aggregated at \$16.74 billion during the last fiscal as compared to \$25.5 billion

in 2021-22.



India and Switzerland:

- With regard to Switzerland, in 2022-23, India's imports from Switzerland stood at USD 15.79 billion, in stark contrast to its exports of USD 1.34 billion, leading to a substantial trade deficit of USD 14.45 billion.
- India's main imports from Switzerland include gold (USD 12.6 billion), machinery (USD 409 million), pharmaceuticals (USD 309 million), coking and steam coal (USD 380 million), optical instruments and orthopaedic appliances (USD 296 million), watches (USD 211.4 million), soybean oil (USD 202 million), chocolates (USD 7 million).

Conclusion:

India and the European Free Trade Association (EFTA) are negotiating a free trade agreement, officially dubbed as Trade and Economic Partnership Agreement (TEPA) with an aim of boosting economic ties. FTA (free trade agreement) negotiations were initiated in January 2008. India must navigate these negotiations with a focus on balancing trade, protecting domestic interests, and securing a fair and beneficial agreement.

5 Centre for Fourth Industrial Revolution

Why in News:

The state government of Telangana has signed an agreement with the World Economic Forum to set up a Centre for Fourth Industrial Revolution (C4IR) in the state capital, Hyderabad. The C4IR will be launched in the Bio Asia 2025 scheduled in February 2025. This centre is majorly focused on healthcare and life sciences.

Centre for Fourth Industrial Revolution:

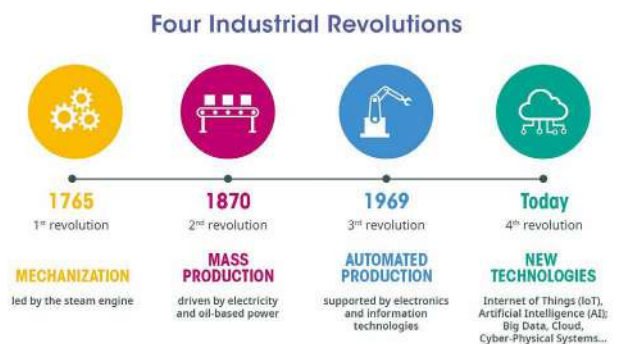
- C4IR Telangana will be the 18th center to join WEF's Fourth Industrial Revolution network spanning four continents.
- The centre would help in leveraging the latest technology for advances in the life sciences

sector. The cooperation between these two agencies will foster the quality of healthcare services in the state.

- This would also redefine healthcare services at the global scale and state government will provide affordable and qualitative healthcare services to the rural population on a priority basis.
- It would turn the state of Telangana into a technological hub and global destination for healthcare services and boost the medical tourism of the state. It would also aid in increasing state GDP growth.

What is the Fourth Industrial Revolution?

- The term 4IR was coined by the executive chairperson of the World Economic Forum, Klaus Schwab in 2016.
- The fourth Industrial Revolution is the fusion of robotics, Artificial Intelligence, nanotechnology, blockchain technology, drone technology, quantum computing, etc. It will change the way how we live, communicate, how we produce and how we consume.
- The Fourth revolution is building on the third revolution and has data at its core.



Opportunities of 4IR:

- It has the potential to raise global production and improve the quality of life of the world population. The long-term gains in the increase in the productivity and efficiency of production.
- The development of 'precision technology' with the help of robotics and nanotechnology would revolutionize the medicine and drug delivery methods.
- Technological advancements and new methods of monitoring will increase the efficacy of e-governance.

Challenges of 4IR:

- The fear of job loss, increment in the digital divide and inequality are some of the grave concerns associated with the 4IR. The other significant issues of ethical violations, cyber

security, infringement of privacy and socio-economic impact have been strongly raised by many stakeholders.

Way Forward:

The governments of state and union in India considering the advantages of 4IR are opting for new initiatives with great enthusiasm. Among them, SAMARTH (Smart Advanced Manufacturing and Rapid Transformation Hub), Drone Shakti for startups, FIRST (Fourth IR for Sustainable Transformation) Cancer Care Model, and pan-India 3D maps programs are worth noticing.

6 'Indian Economy—A Review'

Why in News:

The Economic Survey 2024 wasn't presented before Budget 2024. It would be released after the elections before the final budget is released. Instead, a report on India's last 10 years called 'Indian Economy—A Review' has been released by the Centre.

Indian Economy - A Review:

- Despite global economic challenges with growth rates barely surpassing 3%, India's GDP is projected to surpass 7.2% in FY24, marking the third consecutive year of over 7% growth. This growth is attributed to increased public sector investment, a robust financial sector and strong non-food credit expansion.
- India has solidified its position as the world's third-largest fintech economy, next only to the USA and the UK.
- India has surpassed Hong Kong to claim the fourth spot in global stock markets. This success is credited to both domestic and international investor positive sentiment on Indian stock market, along with sustained IPO activity.
- Key social and economic initiatives have significantly impacted the landscape. The PM Jan Dhan Yojana has notably increased the percentage of women with bank accounts, rising from 53% in 2015-16 to an impressive 78.6% in 2019-21. Female labor force participation has also seen substantial growth. It has increased from 23.3% in 2017-18 to 37% in 2022-23, thanks to initiatives like the Skill India Mission, Start-Up India, and Stand-Up India, which have boosted female participation in human capital formation.
- In higher education, the female Gross Enrolment Ratio (GER) has quadrupled from 6.7% in FY01 to 27.9% in FY21, while the overall GER has more than doubled from 24.5% to 58.2% between FY05 and FY22. Supportive government measures are

fostering increased dynamism among the MSME sector.

- The adoption of the Goods and Services Tax (GST), combined with the unification of domestic markets and enhanced production incentives, has enhanced economic efficiency, resulting in a subsequent reduction in logistics costs.

Conclusion:

The review highlighted the efforts made by the central government to enhance India's economic growth. It also highlighted India's strong economic fundamentals which has propelled the Indian economy to sustained higher growth rate.

7 Interim Union Budget 2024-25

Why in News:

Union Minister for Finance and Corporate Affairs Smt. Nirmala Sitharaman presented the Interim Union Budget 2024-25 in Parliament.

Highlights of Interim Union Budget 2024-25:

- Government assisted 25 crore people out of multi-dimensional poverty in last 10 years.
- PM-SVANidhi provided credit assistance to 78 lakh street vendors. 2.3 lakh vendors have received credit for the third time.
- PM-JANMAN Yojana to aid the development of particularly vulnerable tribal groups (PVTG).
- PM-Vishwakarma Yojana provides end-to-end support to artisans and crafts people engaged in 18 trades.
- PM-KISAN SAMMAN Yojana provided financial assistance to 11.8 crore farmers.
- Under PM Fasal Bima Yojana, crop insurance is given to 4 crore farmers.
- Electronic National Agriculture Market (e-NAM) integrated 1361 mandis, providing services to 1.8 crore farmers with trading volume of Rs. 3 lakh crore.
- 30 crore Mudra Yojana loans given to women entrepreneurs.
- Female enrolment in higher education gone up by 28%.
- In STEM courses, girls and women constitute 43% of enrolment, one of the highest in the world.
- Over 70% houses under PM Awas Yojana given to women from rural areas.
- 1 crore households to obtain 300 units free electricity every month through rooftop solarization.
- Pradhan Mantri Kisan Sampada Yojana has benefitted 38 lakh farmers and generated 10 lakh employment.
- Pradhan Mantri Formalisation of Micro Food Processing Enterprises Yojana has assisted 2.4

lakh SHGs and 60000 individuals with credit linkages.

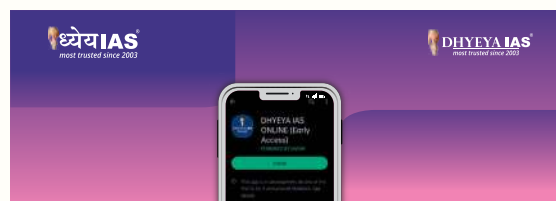
- Coal gasification and liquefaction capacity of 100 MT to be set up by 2030.
- Over the last ten years, the direct tax collections have more than trebled and the return filers swelled to 2.4 times.
- FDI inflow during 2014-23 of USD 596 billion was twice of the inflow during 2005-14.
- Average monthly gross GST collection doubled to Rs 1.66 lakh crore this year.
- GST tax base has doubled.
- No tax liability for income upto Rs 7 lakh, up from Rs 2.2 lakh in FY 2013-14.
- Corporate income tax decreased to 22% from 30% for existing domestic companies.
- Corporate income tax rate at 15% for new manufacturing companies.

Budget Estimates 2024-25:

- Total receipts other than borrowings and the total expenditure are estimated at Rs.30.80 lakh crore and Rs.47.66 lakh crore respectively.
- Tax receipts are estimated at Rs.26.02 lakh crore.
- Fiscal deficit in 2024-25 is estimated to be 5.1% of GDP.
- Gross and net market borrowings through dated securities during 2024-25 are estimated at Rs 14.13 and Rs 11.75 lakh crore respectively.

Conclusion:

The Interim Budget 2024 was focused on youth and women empowerment, while maintaining fiscal consolidation. FM Sitharaman lowered down FY25 fiscal deficit target to 5.1% of the GDP. There were no changes made to the direct tax and indirect tax rates.



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1 Vicious Circle of Informal Employment & Low-Paying Work

Why in News:

The majority of the world's employed population works in informal settings, according to a new report by international policy advisor Organisation for Economic Co-operation and Development (OECD). The report highlights the inter-generational aspect of informal employment and describes the various channels through which the challenge of informal workers' vulnerability in the absence of adequate education, skills and social protection policy is being passed on to their children.

Key Points:

- New OECD report highlights that the majority of the world's employed population works in informal settings, leading to high poverty and occupational risks.
- Lack of adequate social protection for informal workers leaves them and their families vulnerable to various risks.
- Children in households where all family members work informally inherit vulnerabilities, creating a cycle of challenges.
- Around 60% of children under 15 in developing economies live in fully informal households, with figures exceeding 80% in some African countries.
- Formal households spend more on education per child than informal households, leading to early educational disparities.
- Existing educational inequalities are exacerbated by the COVID-19 crisis, limiting access to parental assistance.
- Young people from informal households have higher shares of 'not in education, employment, or training' compared to those from mixed and fully formal households.
- In sub-Saharan Africa, informal apprenticeships are common, with over three-quarters of young people in developing economies starting employment in informal settings.
- Young workers have better chances of finding formal work in Europe, Central Asia, and Latin America, while up to 95% of young workers in sub-Saharan African countries are in informal employment.

Way Forward:

The report underlines the dual burden of informality and low-paid work borne by most workers in the informal economy and also recommends policies such as investing in accessible quality education, preventing school dropouts, and smoothing school-to-work transitions for young people from informal

households. Effective implementation of proposed policies requires collaboration between government agencies, educational institutions, employers, and civil societies.

2 RBI Report on Panchayati Raj System

Why in News:

RBI has published a report titled, 'Finance of Panchayati Raj Institutions'. Drawing upon the data on 2.58 lakh Panchayats for the year 2020-21 to 2022-23, the report presents an assessment of their finances and their role in India's socio-economic development.

Key findings of the report:

- Finances of Panchayati Raj institutions face constraints as their revenue sources are limited comprising revenues from property taxes, fees, and fines. Nearly all of their revenue is generated through grants from higher levels of government which further limits their spending ability.
- Further, the report notices sharp interstate variations in the devolution of powers and functions to Panchayats. The states which have higher devolution levels have exhibited better outcomes in health, education, infrastructure etc.
- The report further finds assessment of fiscal health of Panchayats becomes challenging due to uneven unavailability of data regarding revenues and expenditures. The presence of such data in standardised formats would enhance fiscal transparency and accountability effectively working towards their empowerment.

Challenges faced by the PRI:

- The prime challenge that the institution faces is the problem of lack of finances. The lack of financial resources hinders their functions and growth.
- There is very little devolution of authority. Panchayati Raj institutions cannot govern unless they are given the authority to perform functions related to governance.
- Lack of awareness and non-fulfilment of promises made by these bodies make village people suspicious of the utility of Panchayati Raj bodies.

About the Panchayati Raj system:

- Panchayati Raj Institution (PRI) is a system of rural local self-government in India.
- Local Self-government is the management of local affairs by such local bodies whom the local people have elected.
- PRI was constitutionalized through the 73rd Constitutional Amendment Act, 1992 to build

democracy at the grassroots level and was entrusted with the task of rural development in the country.

Way Forward:

For sustainable growth of the Panchayati Raj system, there is a need to increase the revenue of Panchayats through tax and non-tax revenue sources. Further, State finance commissions should be established without any delay which will fortify the financial position of PRIs and help them in better delivery of their responsibilities for the upliftment of the rural economy. There is a need to raise citizens' awareness about the functions and significance of PRIs by encouraging their increased participation in local governance processes and by enhancing people-centric administration and communication.

3 Heritage Corridor

Why in News:

Odisha Chief Minister Naveen Patnaik unveiled the Shree Mandir Parikrama Prakalpa (SMPP), a massive peripheral development project around Puri's 12th century Shri Jagannath Temple.

About the corridor:

- The 75-metre-wide space encircling the temple, known as the heritage corridor, has now been named the SMPP and divided into nine different zones.
- The SMPP has a 7-metre green buffer zone, adjacent to the Meghanada Pacheri, or the boundary of the temple.
- This is followed by the 10-metre Antar Pradakshina, which allows space for ceremonial processions of the deities throughout the year; it also doubles as a parikrama path, inviting the general public to undertake a circumambulation of the sacred Shree Mandira complex.
- There is a 14-metre landscape zone where a garden showcases a variety of trees integral to Jagannatha culture.
- An 8-metre Bahya Pradakshina lets visitors spend some time in quietness and contemplation. A 10-metre public convenience zone has nine restrooms, drinking water facilities, two information-cum-donation kiosks, and three mini cloakrooms, apart from a police kiosk. There is also a shaded footpath and a dedicated emergency lane.

About Temple:

- Shri Jagannath Puri Temple is one of the most impressive monuments of the Indian State Odisha. It was constructed by a famous king of the Ganga Dynasty Ananta Varman Chodaganga Deva dating back to the 12th century at the seashore Puri.

Conclusion:

The SMPP project was first conceptualized by the Government of Odisha in 2016, after hearing a query from the state cabinet officials about developing a 'heritage corridor' as part of the 'Puri Heritage Corridor Project' plan, to modernise the space around the 12th century-temple complex and provide adequate facilities and amenities to pilgrims and visitors for a better and smoother experience. Earlier, unlike the other three Dhams, Puri did not have a "Parikrama Marg", or a path for circumambulation in a heritage corridor, similar to the Kashi Vishwanath Corridor of the Kashi Vishwanath Temple in Varanasi. Hence, in 2019, the project was renamed as "Shree Mandir Parikrama" Project (SMPP), or Shree Jagannath Heritage Corridor (SJHC), to be executed for the beautification of the perimeter of the Jagannath temple.

4 Ayodhya's Ram Temple

Why in News:

On January 22, 2024, the Ram temple in Ayodhya was inaugurated. This marked the culmination of series of events which significantly shaped India's socio-political landscape. Designed in the Nagara Style of Temple Architecture, the Ram temple stands as a symbol of cultural and religious significance.

Uniqueness of Ram Temple:

- **Traditional Architecture and Construction:** Embodying the traditional Nagara style, the 3-storey Ram Temple is constructed with pink sandstone sourced from Mirzapur and the hills of Banshi-Paharpur (Rajasthan).
- **Temple Dimensions:** The temple spans 71 acres, showcasing architectural mastery. With a width of 250 feet and a towering height of 161 feet, the main temple area covers 2.67 acres. Noteworthy features include 390 pillars, 46 doorways, and 5 mandaps.
- **Unique Features Inside:** Within the temple, the main Garbh Griha houses the idols of Ram Lalla, complemented by various mandaps such as Rang Mandap and Nritya Mandap.

What is Nagara Style of Temple Architecture

- **Period of Origin:** The Nagara style of temple architecture originated in the late Gupta period, around the 5th century CE, in northern India. Concurrently, the Dravida style which is contemporary to this period, can be observed in southern India.

Characteristics:

- Nagara temples feature a raised plinth as their foundation.
- The Garbha Griha, housing the deity's idol, is considered the most sacred area within the temple.

- The shikhara, resembling a mountain peak, stands tall above the Garbha Griha and symbolizes the natural and cosmological order in Hindu tradition.
- These temples typically include a circumambulatory passage around the garbha griha.
- One or more mandapas (halls) are aligned on the same axis as the garbha griha.
- Elaborate murals and reliefs often adorn the walls of Nagara-style temples, adding to their visual richness and cultural significance.

Conclusion:

The Ayodhya Ram Mandir stands as more than just a temple; it represents faith, unity, and cultural heritage. Its construction marks a historic milestone in India greatly amalgamating the architecture of modern times with traditional architecture.

5 Chittorgarh Fort

Why in News:

The Supreme Court has prohibited the mining of limestone by blasting or use of explosives within a radius of five kilometres from compound wall of Rajasthan's iconic Chittorgarh Fort, constructed in the Mauryan period and declared as a heritage monument. The court observed the exploitation of minerals available in the surrounding area by the lessees to the state government, particularly in an unscientific manner or disproportionate exploitation of minerals in hardcore mining activities, was a threat to fort.

About Chittorgarh Fort:

- It was built by local Maurya rulers in the 7th century A.D. The Chittorgarh Fort in Rajasthan is one of the largest forts in India.
- The fort was captured by the Mewar rulers in 728 CE and served as a capital for its rulers.
- It is situated on a 180-meter-high hill that rises from the banks of river Berach.
- It was declared a UNESCO World Heritage Site in 2013.

Features:

- The fort is known for its seven gates, namely Padan Gate, Ganesh Gate, Hanuman Gate, Bhairon Gate, Jodla Gate, Lakshman Gate, and the main gate, which is named after Lord Ram.
- These gates were built to protect the fort from the enemy attacks, and the arches even stopped the elephants from entering.
- Sprawling across 700 acres and a circumference of 13 km, the fort has a kilometre-long road that takes up to the rampart after passing through the seven gates.
- The walls are made of lime mortar and rise up to 500 metres above ground level.

- The fort houses four palaces, 19 temples, including Jain and Hindu temples, 20 water bodies, and four memorials.

Conclusion:

The fort and the city of Chittorgarh host the biggest Rajput festival called the Jauhar Mela. This festival is held primarily to commemorate the bravery of Rajput ancestors and all three jauhars which happened at Chittorgarh Fort. A huge number of Rajputs, which include the descendants of most of the princely families, hold a procession to celebrate the Jauhar. Six forts of Rajasthan, namely, Amber Fort, Chittorgarh Fort, Gagron Fort, Jaisalmer Fort, Kumbhalgarh and Ranthambore Fort were included in the UNESCO World Heritage Site list during the 37th meeting of the World Heritage Committee in Phnom Penh in June 2013. They were recognized as a serial cultural property and examples of Rajput military hill architecture.

6 India's Oldest Living City: Vadnagar

Why in News:

A joint study by the Indian Institute of Technology (Kharagpur) has found evidence of cultural continuity in Vadnagar even after the Harappan collapse, thus making it likely that the "Dark Age" was a myth.

More about the news:

- A consortium of scientists from IIT Kharagpur, Archaeological Survey of India (ASI), Physical Research Laboratory (PRL), Jawaharlal Nehru University (JNU), and Deccan College have conducted a deep archaeological excavation at Vadnagar, which is also the native place of the Prime Minister Narendra Modi.
- The findings have been published in a paper titled 'Climate, human settlement, and migration in South Asia from early historic to medieval period: evidence from new archaeological excavation at Vadnagar, Western India' in the Elsevier journal Quaternary Science Reviews.
- The study found evidence of a human settlement that is as old as 800 BCE contemporary to late-Vedic/pre-Buddhist Mahajanapadas or oligarchic republics.
- The study also indicates that the rise and fall of different kingdoms during the 3,000-year period and recurrent invasions of India by central Asian warriors were driven by severe change in climate like rainfall or droughts.

Major findings of the Excavation:

- The excavation project established Vadnagar as a multicultural and multi-religious (Buddhist, Hindu, Jain and Islamic) settlement.
- Excavation in several deep trenches reveal the presence of seven cultural stages (periods)

namely, Mauryan, Indo-Greek, Indo-Scythian or Shaka-Kshatrapas (AKA ‘Satraps’, descendants of provincial governors of ancient Achaemenid Empires), Hindu-Solankis, Sultanate-Mughal (Islamic) to Gaekwad-British colonial rule.

- One of the oldest Buddhist monasteries has been discovered during the excavation along with characteristic archaeological artefacts, potteries, copper, gold, silver and iron objects and intricately designed bangles.
- Coin moulds of the Greek king Appollodatus during the Indo-Greek rule at Vadnagar, were also found.

Way Forward:

- Archaeological records, though scarce, provide invaluable insights into India’s ancient history. The rock inscription of Emperor Ashoka at Sudarsana Lake in Girnar hill, Gujarat, dating back to the Mauryan period, stands as one of the earliest recorded artifacts.
- With Vadnagar emerging as the oldest living city within a single fortification in India, with recent radiocarbon dates indicating a potential settlement dating as far back as 1400 BCE, it aligns with the late phase of the post-urban Harappan period.
- The period between the collapse of the Indus Valley Civilisation and the emergence of the Iron Age and cities like Gandhar, Koshal, and Avanti is often depicted as a Dark Age by archaeologists. If this study is proven true, it will showcase the remarkable cultural continuity in India spanning approximately 5500 years, challenging the notion of a Dark Age.

7

Bharat Ratna

Why in News:

Recently, press communique by President’s Secretariat announced the Bharat Ratna Award for the former Deputy Prime Minister of India Shri Lal Krishna Advani and socialist leader and former Chief Minister of Bihar Shri Karpoori Thakur.

About Lal Krishna Advani:

- Lal Krishna Advani, one of the key founders of the Bharatiya Janata Party, was born in Karachi, Pakistan in 1927. Due to partition in 1947, his family moved from Karachi to Mumbai. After primary education, Advani entered politics by joining Jan Sangh and Rashtriya Swayamsevak Sangh. Lal Krishna Advani, who played an active role in the Ram Mandir movement, was a Union Minister several times and also Deputy Prime Minister in the Atal Bihari Vajpayee government. Lal Krishna Advani, who always responded positively to burning issues while being in the

opposition, has been respected above party lines.

About Bharat Ratna Award:

- Bharat Ratna is the highest civilian award of the Republic of India.
- The award was established in 1954 and is presented in recognition of exceptional service/performance of the highest order, without discrimination of caste, occupation, status or gender.
- The award was originally limited to achievements in arts, literature, science and public services.
- But in December 2011, the government expanded the criteria to include any field of human endeavour.

Key Aspects:

- It is not mandatory that Bharat Ratna be awarded every year.
- There is no written provision that Bharat Ratna should be awarded only to Indian citizens.
- The award has been presented to a naturalized Indian citizen, Mother Teresa (1980) and two non-Indians – Khan Abdul Ghaffar Khan and Nelson Mandela (1990).
- Recommendations for Bharat Ratna are made by the Prime Minister of India to the President.
- The number of Bharat Ratna awards is limited to a maximum of three in a particular year.
- Upon presentation of the award, the recipient receives a Sanad (certificate) signed by the President and a medal.
- The award does not carry any monetary grant.
- According to Article 18(1) of the Constitution, the award cannot be used as a prefix or suffix to the name of the recipient.

About Karpoori Thakur:

- Karpoori Thakur, called as “Jan Nayak”, was a prominent Indian politician who served as the 11th Chief Minister of Bihar twice, from 1970-71 and 1977-79.
- **Chief Ministerial Term and Policies:** In 1977, during his Chief Ministership, Mungeri Lal Commission recommended reclassifying backward classes into extremely backward classes (including weaker sections of Muslims) and backward classes. In 1978, he introduced a groundbreaking reservation model, allocating 26% of reservations with specific quotas for OBCs, EBCs, women, and economically backward classes among upper castes.

Way Forward:

Bharat Ratna is the highest civilian honor awarded in India. It is awarded in recognition of the work done for social upliftment so that the common people may also move forward in social life by learning from the actions of such great people.

BRAIN BOOSTERS- Year-End Review 2023

Ministry of Power

Power Sector

- The present **installed capacity** of power generation is around **4,26,132 MW**.
- Out of total generation capacity of 9,943 MW added in the current year 2023-24,
 - » 1,674 MW, from fossil fuel sources.
 - » 8,269 MW, from non-fossil fuel sources.
- During the year, 7,569 MW of Renewable Capacity has been added.
- The availability of power in rural areas has increased from 12 hours in 2015 to 20.6 hours and in the urban areas it has increased up to 23.8 hours.

SAMARTH Mission

- In order to address the issue of air pollution due to farm stubble burning and to reduce carbon footprints of thermal power generation, **National Mission on Use of Biomass in Coal Based Thermal Power Plants** has been set up.
- This would further support the energy transition in the country and our targets to move towards cleaner energy sources.
- The **National Mission on Biomass** will also contribute in the **National Clean Air Programme (NCAP)**.

Transmission Capacity

- In the last 9 years, with the addition of 1,87,849 ckm, the transmission network of 4,79,185 ckm has evolved as the **largest national synchronous grid in the world**.
- The total **inter-regional capacity to transfer power** from one region to another is enhanced to 1,16,540 MW from **35,950 MW** in last 9 years.

Revamped Distribution Sector Scheme

- The Government of India launched the Revamped Distribution Sector Scheme (RDSS) to help DISCOMs improve their **operational efficiencies and financial sustainability**.
- It aims to do this by providing result-linked financial assistance to DISCOMs to strengthen supply infrastructure based on meeting pre-qualifying criteria and achieving basic minimum benchmarks.

National Smart Grid Mission

National Smart Grid Mission (NSGM) is designated to lead the assessments for Smart Distribution cities, under the guidance of Ministry of Power, with the technical assistance of USAID's South Asia Regional Energy Partnership (SAREP).

Street Lighting National Programme

The Prime Minister, on 5th January, 2015 launched Street Lighting National Programme (SLNP) to replace conventional street lights with smart and energy efficient LED street lights across India.

Unnat Jyoti by Affordable LEDs for ALL

- The Prime Minister, on 5th January 2015 launched Unnat Jyoti by Affordable LED for All (UJALA) programme.
- Under UJALA scheme, LED bulbs, LED Tube lights and Energy efficient fans are being sold to the domestic consumers for replacement of conventional and inefficient variants.

BRAIN BOOSTERS- Year-End Review 2023

Ministry Of Micro, Small and Medium Enterprises

About the Sector

- MSME sector has more than **6.30 crore enterprises**.
- It has emerged as a highly vibrant and dynamic sector of the Indian economy, fostering entrepreneurship and generating **self-employment opportunities** at comparatively lower capital cost, next only to agriculture.
- The Ministry of MSME promotes growth and development of the sector, including Khadi, Village and Coir industries, by implementing various schemes/programmes towards:
 - » Credit support
 - » Technological assistance
 - » Infrastructure development
 - » Skill development and training
 - » Enhancing competitiveness
 - » Market assistance.
- Organizations, working under the ambit of the Ministry include:
 - » Office of Development Commissioner (MSME)
 - » Khadi and Village Industries Commission (KVIC)
 - » Coir Board
 - » National Small Industries Corporation Ltd. (NSIC)
 - » National Institute for Micro, Small and Medium Enterprises (ni-msme)
 - » Mahatma Gandhi Institute for Rural

PM Vishwakarma

- PM Vishwakarma, aims at **improving the quality** as well as the **reach of products and services** of artisans and craftspeople and to ensure that the 'Vishwakarmas' are integrated into the domestic and global value chains.
- The Scheme was announced on 1st February, 2023 in the Budget Speech for the FY2023-24.
- The Scheme was launched on 17th September, 2023.
- PM Vishwakarma is a **Central Sector Scheme**, fully funded by the Government of India, with an initial outlay of Rs. 13000 crore for an initial period of 2023-24 to 2027-28.
- **Achievements:**
 - » As on 30th December, 2023, a total of 48.80 lakh enrolments have been made under PM Vishwakarma.
 - » A total of 1.32 lakh applications have been registered successfully under the Scheme.

Procurement & Marketing Support

- **Public Procurement Policy for Micro and Small Enterprises**
 - » The Ministry of MSME, Government of India notified the Public Procurement Policy for Micro and Small Enterprises (MSEs), which mandates 25% annual procurement from MSEs by Central Ministries/Departments/Central Public Sector Enterprises (CPSEs).
 - » A total of 358 items are reserved for exclusive procurement from MSEs.
- **Procurement and Marketing Support Scheme**
 - » The scheme promotes new market access initiatives and enhances the marketability of products and services in the MSME sector.

Access to Credit

Prime Minister's Employment Generation Programme

- PMEGP is a **credit linked subsidy scheme** for providing employment opportunities through **establishment of micro-enterprises** in the non-farm sector.
- The maximum project cost admissible for setting up of new project:
 - » Rs. 50 lakh in manufacturing sector.
 - » Rs. 20 lakh in Service Sector.
- **Geo-tagging** of the PMEGP units have been initiated for capturing the details of the products and services offered by the units and to create market linkages for them.

Credit Guarantee Scheme:

- The **Credit Guarantee for Micro and Small Enterprises (CGTMSE)** was introduced in the year 2000 to facilitate credit access to MSEs in the country.
- This scheme has been revamped in the year 2023 and the following features have been added in the scheme w.e.f. 1st April, 2023:
 - » Enhancement of ceiling limit of Guarantee coverage from Rs. 2 crore to Rs. 5 crore.
 - » The Annual Guarantee fees reduced from 0.75% to 0.37%.
 - » Increase in the threshold limit from Rs. 5 Lakh to Rs. 10 lakh for waiver of legal

Infrastructure & Capacity Building

Micro and Small Enterprises Cluster Development Programme:

- MSE-CDP was launched in the year 2003.
- **Objective:** To **enhance the productivity and competitiveness** of Micro and Small Enterprises (MSEs) by extending financial assistance for establishment of 'Common Facility Centers (CFCs)' and creation and upgradation of industrial estates.

Scheme of Fund for Regeneration of Traditional Industries (SFURTI):

- **Objective:** To organize the artisans and traditional industries into clusters for:
 - » Better competitiveness.
 - » For enhancing employment opportunities.
 - » To increase marketability of products of such clusters.
- A total of 513 clusters have been approved. out of this, 389 clusters have become functional.

A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE):

- ASPIRE aims to **create employment opportunities in the agro-rural sector.**

- There are 2 components under ASPIRE:

- » **Livelihood Business Incubator (LBI):**

- **Objective:** To generate employment opportunity by facilitating formal, scalable micro-enterprise creation, and to provide skilling, up-skilling and re-skilling for unemployed, existing self-employed/ wage earners in new technologies.

- » **ASPIRE Fund of Funds (FoF):**

- It is managed by SIDBI.
- FoF was created with a focus to invest through Alternate Investment Funds (AIFs), in early-stage scalable start-ups in need of support and nurturing to succeed in developing technology and business enterprise in the areas of innovation, entrepreneurship, developing forward and backward linkages with multiple value chain of manufacturing and service delivery in the agro-based sector.

RAMP Scheme

➤ RAMP: Raising and Accelerating MSME Performance Programme

- RAMP Scheme aims at:
 - » Strengthening institutions and governance at the Centre and State.
 - » Improving Centre-State linkages.
 - » Partnerships and improving access of

MSMEs to:

- Market and credit.
- Technology upgradation.
- Addressing the issues of delayed payments.
- Greening of MSMEs.

Access to Technology

MSME Champions

- The **objective** of the MSME Champions Scheme is
 - » To pick up clusters and enterprises and modernize their processes.
 - » Reduce wastages.
 - » Sharpen business competitiveness.
 - » Facilitate National and Global reach and excellence.
- The Scheme has three components:
 - » MSME-Sustainable (ZED)
 - » MSME-Competitive (LEAN)
 - » MSME-Innovative (Incubation, Design, IPR)

Technology Centres

- Technology Centres (also known as Tool Room & Technical Institutions) are providing trained personnel, consultancy in tooling and upgradation of technologies/products in sectors like:
 - » Foundry & Forging
 - » Electronics
 - » Electrical Measuring Instruments
 - » Fragrance & Flavour
 - » Glass
 - » Sport Goods
 - » Footwear designing

Promotion of Khadi, Village Industries and Coir Sector

Khadi and Village Industries:

- As a part of rationalization exercise, the Government of India merged all the existing KVI schemes and brought under one umbrella scheme, namely, **Khadi and Gramodyog Vikas Yojana (KGVY)** in 2019.

Coir Sector:

- Indian Coir sector achieved an export

turnover of 12,65,000 MT valued at Rs. 3,992 crore during the period from January, 2023 to December, 2023.

- The overall production of coir fibre had reached 7,31,000 MTs during this period.

National Small Industries Corporation (NSIC)

- NSIC provides **credit support for raw material procurement** by making the payment to suppliers in Raw Material Assistance scheme against Bank Guarantee.
- **Mission:** “To promote and support Micro,

Small & Medium Enterprises (MSMEs) Sector” by providing integrated support services encompassing Marketing, Technology, Finance and other services.

Mahatma Gandhi Institute for Rural Industrialization

- MGIRI, Wardha is a National Autonomous Institute, established in 2009, under the aegis of the Ministry of MSME, Government of India.
- MGIRI has following departments:
 - » Khadi and Textile Industries (K&T)
 - » Bio-processing and Herbal based

Industries (B&H)

- » Rural Chemical Industries (RCI)
- » Rural Crafts and Engineering (RC&E)
- » Rural Infrastructure and Energy (REI)
- » Management and Systems (M&S)

BRAIN BOOSTERS- Year-End Review 2023

Ministry of Tribal Affairs

About the Ministry

The Ministry was set up in 1999 after the bifurcation of Ministry of Social Justice and Empowerment.

Pradhan Mantri PVTG Development Mission

To saturate the Particularly Vulnerable Tribal Group (PVTG) families and habitations with basic facilities such as:

- Safe housing
- Clean drinking water and sanitation
- Improved access to education health and nutrition
- Road and telecom connectivity
- Sustainable livelihood opportunities

National Sickle Cell Elimination Mission

- To be implemented jointly by **Ministry of Health and Family Welfare** and **Ministry of Tribal Affairs** in collaboration with ICMR and States concerned.
- The Mission will cover preventive, curative and management aspects of this genetic disease in an integrated manner.

Jan Jatiya Gaurav Divas

Jan Jatiya Gaurav Divas is celebrated on **15th November, 2023** to pay tributes to **Bhagwan Birsa Munda** on his birth anniversary.

Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan

- India has ST population of 10.45 crore as per 2011 census, out of which **75 communities** located in 18 States and the Union Territory of Andaman and Nicobar Islands have been categorized as **Particularly Vulnerable Tribal Groups (PVTGs)**.
- The Ministry launched the first phase of PM JANMAN scheme in 100 districts along with 9-line Ministries and District administration to ensure saturation of 11 basic amenities to the PVTGs across India.
- Under this campaign, camps are being set up at tribal habitations and basic amenities are being delivered to the tribal population through:
 - » Aadhar enrolment
 - » PM Jandhan accounts
 - » Issue of community certificates
 - » Ayushman Bharat enrolment
 - » FRA patta distribution
 - » Kisan Credit Card enrolment

Aadi Mahotsav

- Aadi Mahotsav is the mega National Tribal Festival.
- Aadi Mahotsav is an **attempt to showcase tribal culture** on the national stage and it celebrates the spirit of tribal culture, crafts, cuisine, commerce and traditional art.
- It is an annual initiative of the **Tribal Cooperative Marketing Development Federation Limited (TRIFED)** under the Ministry of Tribal Affairs.

Eklavya Model Residential Schools (EMRS)

- EMRS was started in the year 1997-98.
- It is aimed at **imparting quality education to ST children in remote areas** in order to enable them to avail of opportunities in high and professional educational courses and get employment in various sectors.
- The schools focus not only on academic education but on the **all-round development** of the students.
- Hitherto, grants were given for construction of schools and recurring expenses to the State Governments under Grants under Article 275 (1) of the Constitution.

BRAIN BOOSTERS- Year-End Review 2023



Ministry of Finance Department of Economic Affairs

Sovereign Green Bonds

- In the Union Budget 2022-23, the Government announced that, as a part of the government's overall market borrowings in 2022-23, sovereign Green Bonds will be issued to **mobilize resources for green infrastructure.**
- The proceeds will be deployed in sector projects which help in **reducing the carbon intensity of the economy.**

Mahila Samman Savings Certificate

- With total number of accounts opened are at 14,83,980 deposit of Rs. 8,630 crore has been generated.
- This initiative empowers women economically, offering an attractive **7.5% interest rate compounded quarterly.**

Sukanya Samridhi Yojana (SSY)

- SSY is a savings scheme initiated by the Department of Economic Affairs, Ministry of Finance, specifically designed for the **benefit of the girl child.**
- The scheme was launched as part of the 'Beti Bachao, Beti Padhao' campaign to promote the welfare of the girl child and encourage parents to save for their education and marriage expenses.

G20 Principles for Financing Cities of Tomorrow

- It aims to **guide the planning and financing of sustainable urban infrastructure.**
- These principles provide a framework that holds the potential to guide Governments, MDBs and other development financing institutions in their planning and financing of sustainable urban infrastructure.

National Infrastructure Pipeline (NIP)

- NIP **comprises brownfield and greenfield infrastructure projects** of above INR 100 Crores across both economic and social infrastructure sectors.
- The pipeline consists of projects implemented by all the States and Union Territories of India and 22 Infrastructure Ministries of Govt. of India.
- NIP was launched with 6,835 projects and has expanded to capture over **9,288 projects** with a total project outlay of Rs 108.88 lakh cr between 2020-2025.
- Transport (42%), energy (25%), water & sanitation (15%) and social infrastructure (3%) sectors amount to around 85% of the projected infrastructure investments under NIP.
- NIP projects are housed on the **India Investment Grid (IIG)** portal.

Department of Financial Services

Digital Payments

1. Progress of Digital Payments

- Promotion of digital payments ecosystem is an essential aspect of digital India programme and has the potential to transform Indian economy by extending inclusive financial services.
- Digital payment transactions have registered tremendous growth in India over the last few years.
- The total number of transactions has increased from 2,071 crore in FY2017-18 to 13,462 crore in FY 2022-23.

2. Progression of UPI

- In a span of just over three years, from April 2020 to September 2023, the Unified Payments Interface (UPI) has experienced remarkable growth.
- With a surge from 1 billion transactions per month to a staggering **10 billion**, UPI has redefined the digital payment landscape, setting new standards for innovation and user-centric features.

Financial Inclusion Intervention

1. Pradhan Mantri Jan Dhan Yojana (PMJDY)

- Pradhan Mantri Jan Dhan Yojana (PMJDY) was launched as the National Mission for Financial Inclusion on 28.8.2014.
- It aimed to ensure comprehensive **financial inclusion of all households** in the country by providing universal access to banking facilities with at least one basic bank account to every household, financial literacy, and social security cover.
- The scheme offered:
 - » To unbanked persons a basic bank account without any minimum balance requirement, called a Basic Savings Bank Deposit (BSBD) account.
 - » Free RuPay debit card, with in-built accident insurance cover of Rs. 2lakh.
 - » Access to overdraft facility of up to Rs. 10,000, subject to eligibility conditions.
 - » Easy access to banking services in rural areas, through Bank Mitras.
 - » Awareness about financial products through financial literacy programmes.

2. Pradhan Mantri Jeevan Jyoti Bima Yojana

Salient Features:

- Rs.2 lakh **term life insurance** covers for death due to any reason.
- All Individuals Account holders aged between 18 to 50 years eligible to enrol.
- Annual premium Rs. 436/- per annum per member and on quarterly pro rata basis.
- **Cover period:** 1st June to 31st May.
- Renewable life covers for one-year period.

3. Pradhan Mantri Suraksha Bima Yojana (PMSBY)

Salient Features:

- **Accidental insurance cover** of Rs. 2 lakh payable on death / total disability and Rs. 1 Lakh on partial disability.
- All Individuals Account holders aged between 18 to 70 years eligible to enrol.
- Annual premium Rs. 20/- per annum per member.
- **Cover period:** 1st June to 31st May.
- Renewable life covers for one-year period.

4. MUDRA - Funding the Unfunded

- Launched on 8th April 2015.
- **Purpose:** For **financing income-generating small business enterprises** in manufacturing, trading and service sectors, including activities allied to agriculture such as poultry, dairy, beekeeping, etc. Term loan and Working Capital requirements can both be met.
- **Member Lending Institutions:** Banks, Non-Banking Financial Companies (NBFCs) & Micro Finance Institutions (MFIs).
- **Categories:**
 - » Shishu – upto Rs.50,000/-,
 - » Kishor – above Rs.50,000 & up to Rs.5.00 lakh,
 - » Tarun – above Rs.5.00 lakh & up to Rs.10.00 lakh.
- No insistence on collateral.
- **Rate of Interest:** Decided by lending institution, interest is charged only on the money held overnight by borrower.

5. Stand Up India Scheme

- Launched on 5th April 2016.
- **Objective:** To facilitate loans from Scheduled Commercial Banks (SCBs) of value between Rs. 10 lakh and Rs.1 Crore to Scheduled Caste (SC) / Scheduled Tribe (ST) and woman borrower for setting up a greenfield enterprise.

News Of National and International Importance

Payment Aggregator

Recently, Zomato's subsidiary Zomato Payments Pvt. Ltd. (ZPPL) has been granted certificate of authorisation by the Reserve Bank of India (RBI) to operate as an 'Online Payment Aggregator' in India.

About Payment Aggregator:

- A payment aggregator (PA) is a third-party service provider that connects merchants to payment processors.
- It allows merchants to accept payments from customers by integrating it into its websites or apps.
- It enables various types of transactions, including online and offline payments, without merchants needing to set up individual bank-based merchant accounts.
- It is incorporated under the Companies Act 2013 in India.
- It requires a license from the Reserve Bank of India (RBI) to operate, regardless of whether it is a bank or non-bank entity.
- Some examples of PAs in India include Amazon (Pay) India, Google India, Razorpay, Pine Labs, among others.
- Many payment aggregators own payment gateways to offer exclusive services to their merchant customers.

C-bot

Recently, the Goa-headquartered National Institute of Oceanography (NIO) has launched a Coral Reef Monitoring and Surveillance Robot, or C-bot, for long-term monitoring of coral reefs.

About C-bot:

- C-Bot is a coral autonomous underwater vehicle that monitors coral reefs over long periods of time.
- It is an advanced robot with enhanced surveillance capabilities.
- It capable of traveling to a depth of 200 meters underwater and can scan the depth of the Indian Ocean.
- It will also help the Navy in conducting bathymetry studies to help plot navigation channels and scope out hydrothermal vents, where geothermally heated water seeps up from deep below the ocean floor.

Phytocannabinoids

Recently, the scientists at CSIR Indian Institute of Integrative Medicine (IIIM), Jammu, have discovered that phytocannabinoids in the cannabis plant exhibit unexplored antibiotic properties.

About Phytocannabinoids:

- Phytocannabinoids are multi-ring phenolic compounds that are structurally related to Tetrahydrocannabinol (THC).
- They can be found in other plants such as rhododendron, licorice and liverwort.
- They have the same mechanism of action as other cannabinoids, such as Delta-9-tetrahydrocannabinol (Δ^9 -THC).
- However, they have a lower affinity for CB1 receptors, meaning that much higher doses are required to experience effects.
- **Phytocannabinoids:** Unraveling the Complex Chemistry and Pharmacology of Cannabis Sativa is a book that presents the current state of the art on phytocannabinoid chemistry and pharmacology.
- It was first published on January 24, 2017, and its editors include A. Douglas Kinghorn and Simon Gibbons.

Chakaliya Community

Recently, it is found that K.P. Narayanan and his niece Rajputhri who belong from the Chakaliya community at Kannur district in Kerala are the last fluent speakers of Madhika, after them, the language, which has no script, will be lost from the world.

About Chakaliya Community:

- Chakaliya Community is a Nomadic community and the worshipper of Thiruvengkattamana and Mariamma.
- They were considered untouchables and were not allowed to participate in feasts associated with social events in the past.
- They have migrated from the hilly regions of Karnataka to northern Malabar centuries ago.
- They reside in small numbers in areas such as Palakunnu, Kookanam, Pranthanchal and Ezhilode.
- They were initially recognized as a Scheduled Tribe, later included in the Scheduled Caste category.

Madhika Language:

- Madhika is an endangered language of Kannur district, Kerala.
- It has been facing extinction and lacks proper documentation due to the dominance of Malayalam.
- The Chakaliya community is the custodian of Madhika.
- Madhika has no script, making it solely oral.
- It is characterized by a linguistic blend, incorporating influences from Telugu, Tulu, Kannada and Malayalam.
- It is Influenced notably by Havyaka Kannada, an ancient form of Kannada.
- Chakaliya community faced historical social stigma and discrimination.

The Mpemba Effect

Modern scientists recently started paying attention to the Mpemba Effect despite earlier mentions by historical figures.

About the Mpemba Effect:

- The Mpemba effect is a phenomenon where a hot system cools faster than an identical system that starts at a colder temperature.
- It is named after Erasto Bartholomeo Mpemba, a Tanzanian game warden who discovered this phenomenon in 1969.
- This effect is counter-intuitive and has been observed since at least the time of Aristotle.
- It has been defined by the phase transition timing in many experimental observations. For example, if hot water starts from 99.9°C and cold water starts from 0.01°C, the colder water will freeze first.

Wings India Awards

Recently the Bangalore & Delhi Airports jointly bagged best airport award for the year 2024 at 4th edition of “Wings India Awards” in the Civil Aviation Sector held in Hyderabad.

About Wings India Awards:

- Wings India Awards are the benchmark for excellence for those demonstrating best practice and innovation in the aviation sector.
- The 2024 Wings India Awards were presented by the Ministry of Union Civil Aviation.
- The event was jointly organized by the Ministry of Civil Aviation (MOCA) and the Federation of Indian Chambers of Commerce and Industry (FICCI).
- The theme of the event was “Connecting India to the World in Amrit Kaal: Setting the stage for Indian Civil Aviation @2047”.

Tibetan Brown Bear

Recently, a rare Tibetan brown bear species has been found roaming in the high-altitude areas of North Sikkim.

About Tibetan Brown Bear:

- The Tibetan brown bear (*Ursus arctos pruinosus*), is a subspecies of the brown bear that lives in the eastern Tibetan Plateau.
- It is one of the rarest bear subspecies in the world and is rarely seen in the wild.

- It is different from the more common Himalayan black bear in appearance, habitat and behavior.
- It lives in alpine forests, meadows and steppes above 4,000 meters.
- Adult male Tibetan blue bears can reach 1.8–2.1 meters (6–7 feet) long, with a shoulder width of 1 meter (3 feet) while females are likely smaller.
- It is an omnivore that eats marmots and alpine vegetation.
- It is known as Dom gyamuk in Tibet.
- It has been accorded the highest protection status under the Wildlife (Protection) Act, 1972 by listing it under Schedule-I.
- It is also listed in Appendix I of the Convention on International Trade in Endangered Species (CITES) as a protected species.

Mount Marapi

Mount Marapi on the Indonesian island of Sumatra erupted again recently spewing volcanic ash that blanketed nearby villages and prompted more than 150 people to evacuate.

About Mount Marapi:

- Mount Marapi is an active volcano in Central Java, Indonesia.
- Its name translates to “Mountain of Fire” in Javanese.
- It is one of the world’s most active and dangerous volcanoes, with a history of frequent and sometimes violent eruptions.
- It is the most active of Indonesia’s 130 active volcanoes and erupted regularly since 1548.
- Indonesia is located on the subduction zone, part of the Pacific Ring of Fire and experiences frequent volcanic and seismic events.

Pacific Ring of Fire:

- The Pacific Ring of Fire, also known as the Circum-Pacific Belt is a horseshoe-shaped region around the Pacific Ocean that is known for its volcanic activity and earthquakes.
- The Ring of Fire also contains the Mariana Trench, the world’s deepest ocean trench 7 miles deep.

NACIN

The Prime Minister of India inaugurate the National Academy of Customs, Indirect Taxes and Narcotics (NACIN) institute at Sri Satyasai district in Andhra Pradesh.

About NACIN:

- NACIN (National Academy of Customs, Indirect Taxes and Narcotics) is a civil service training institute that is part of the Government of India.
- It was established in 1955 and is responsible for training officer trainees of the Indian Revenue Service (Customs and Indirect Taxes).
- It also provides in-service training for all officers and cadres under the Central Board of Indirect Taxes and Customs (CBIC).
- It is under the administrative control of the Central Board of Excise & Customs (CBEC), Department of Revenue, Ministry of Finance, Government of India.
- Its headquarter is in Faridabad and 16 Zonal Campuses across India.

Pakke Paga Hornbill Festival

The 9th edition of the Pakke Paga Hornbill Festival took place at Seijosa in the Pakke Kessang district of Arunachal Pradesh from January 18-20, 2024.

About Pakke Paga Hornbill Festival:

- The Pakke Paga Hornbill Festival (PPHF) is a three-day festival held annually in Arunachal Pradesh to support wildlife and nature conservation.
- It has been celebrated as the state festival of Arunachal Pradesh since 2015.
- The theme of the Pakke Paga Hornbill Festival 2024 is “Domutoh Domutoh, Paga hum Domutoh” which literally translates to ‘Let Our Hornbills Remain’ in the Nyishi language.

- The festival is focused on hornbill conservation and represents the hornbill, a bird that the Naga have revered for centuries.
- The festival's objectives include recognizing the role of the Nyishi tribe in conserving hornbills and devising alternative sources of income for the region.
- It is a conservation festival in Arunachal Pradesh that promotes wildlife and nature conservation.

Karbi Youth Festival

Recently, the President of India graced the golden jubilee celebrations of the Karbi Youth Festival at Taralungso near the Karbi Anglong district headquarters of Diphu in Assam.

About Karbi Youth Festival:

- The Karbi Youth Festival (KYF) is a yearly festival that celebrates the cultural heritage of the Karbi people.
- The festival is considered the oldest ethnic festival in India.
- The festival began in the early 1980s and is a model for other ethnic tribes to preserve and promote their cultural identity.
- The festival aims to preserve and promote traditional games like Hambi Kepathu, a game played with dried seeds.
- The Karbi people are the main tribe of Karbi Anglong and West Karbi Anglong districts of Assam.
- The Karbi Youth Festival is the oldest and biggest ethnic festival of Northeast India, celebrated primarily by the Karbi and other ethnic communities inhabiting the areas administered by the Karbi Anglong Autonomous Council (KAAC).
- In order to mark the golden jubilee of the festival in a befitting manner, the organizers have extended the duration of the annual event from the usual five days to eight days.

Human Pappilomavirus

Recently, the World Health Organisation has revealed that Cervical cancer, the second-most common cancer among women in India, is caused by the persistent human papillomavirus infection.

Human Pappilomavirus:

- The human papillomavirus (HPV) is a family of DNA viruses that can infect the epithelium.
- It is the most common sexually transmitted infection (STI) in the United States.
- It is usually harmless and goes away on its own, but some types can lead to cancer or genital warts.
- It is transmitted through skin-to-skin contact, during vaginal, anal or oral sex with someone who has the virus.
- It is estimated that every year around 1.25 lakh women are diagnosed with cervical cancer, and nearly 75,000 of them die.
- India accounts for nearly 25% of global cervical cancer deaths.
- In 2022, the WHO adopted a strategy to eliminate cervical cancer globally.
- The strategy includes ensuring 90% of girls are fully vaccinated with the HPV vaccine by 2030.
- Two vaccines, Gardasil and Cervavac are available in India.

Anuvadini App

Recently, the Central Government has introduced 'Anuvadini' app, an Artificial Intelligence-based platform.

- The initiative aims to make study material available in digital form for all school and higher education courses, exclusively in Indian languages listed in the 8th Schedule of the Indian Constitution. The move is in line with the recommendations of the National Education Policy 2020, which emphasizes the importance of studying in one's mother tongue.
- The University Grants Commission, All India Council for Technical Education and the School Education Department have been directed to ensure availability of study material in regional languages as per mandate of NEP, 2020.

Current Affairs at a Glance

1. Indian tennis player Rohan Bopanna recently won his first men's doubles Grand Slam title of the career. He won Australian Open 2024, at the age of 43, becoming the oldest male player in the history to win a Grand Slam.
2. Anil Kumar Lahoti has been appointed Chairman of Telecom Regulatory Authority of India (TRAI). Meenakshi Gupta was appointed interim chairman. The tenure of TRAI Chairman is 3 years or till the age of 65 years or until further orders.
3. The Central Government has appointed 4 members for the 16th Finance Commission. These include former Expenditure Secretary Ajay Narayan Jha, former Special Expenditure Secretary Annie George Mathew, Executive Director Dr. Niranjana Rajadhyaksha and Chief Economic Advisor of State Bank Group Soumya Kanti Ghosh.
4. Recently Bloomberg released the World's Top Selling Car Companies 2023 report. According to the report, Toyota Motor Corp is the world's largest car selling company. It is followed by Volkswagen which sold 92.4 lakh cars with an annual growth of 12%.
5. Ex Pak PM Imran Khan and his wife Bushra Bibi have been sentenced to 14 years imprisonment and fine for the Toshakhana case.
6. French President Emmanuel Macron attended the Republic Day of India as the chief guest.
7. Ola's Krutrim became India's first AI firm to turn unicorn.
8. Indian Air Force (IAF), French Air and Space Force (FASF) and United Arab Emirates (UAE) Air Force conducted a joint Desert Night exercise.
9. On January 25, President approved the gallantry awards to 80 army personnel which include 12 posthumous. 6 were awarded Kirti Chakra (3 posthumous), 16 Shaurya Chakra (2 posthumous), 53 Sena Medals (7 posthumous), 1 Nao Sena Medal (Gallantry) and 4 Vayu Sena Medals (Gallantry).
10. Initiative named 'Cashless Everywhere' has been started by the General Insurance Council. Under this, health insurance policy holders will now be able to avail the facility of cash-less treatment in any hospital of the country. No separate extra fee will have to be paid for the treatment.
11. 12 products of Arunachal Pradesh Apatani, Monpa, Adi, Galo, Tai Khamti, Nyishi textiles, Monpa handmade paper, Singpho Phalap (Singpho tea), Adi Apong, Dao (machete), Angnyat millet and Marua Apo (Marua millet beverage) received GI tag.
12. Microsoft has crossed \$3 trillion market valuation and has become the world's largest software company in terms of market value.
13. On the occasion of UP Day on January 24, UP government conferred Uttar Pradesh Gaurav Samman on Dr. Ritu Karidhal, a scientist from Lucknow, who played an important role in India's Mars Mission, and Kanpur's Naveen Tewari, who established the largest independent mobile Ad tech platform in the world.
14. BCCI honored Indian cricketer Shubman Gill with 'Cricketer of the Year 2024' and former Team India coach Ravi Shastri with 'Lifetime Achievement Award' at the award ceremony in Hyderabad.
15. The President of India, Smt. Droupadi Murmu conferred the "Pradhan Mantri Rashtriya Bal Puraskar" instituted by the Ministry of Women and Child Development, Government of India to 19 children. This year's awardees include one child each in the categories of Bravery, Science & Technology and Innovation, four in the category of Social Service, five in the category of Sports, and seven in the category of Art & Culture.
16. The 2nd edition of exercise 'Cyclone', between the Indian and Egyptian armies concluded in Anshas, Egypt.
17. PepsiCo India appointed Jagrut Kotecha as its new CEO.
18. Under the new education policy of the Government of India, it was decided to include Persian among the nine classical languages of India.
19. Chhattisgarh government started the Mahtari Vandan Yojana. Under this scheme, one thousand rupees will be given to women every month.
20. Argentina's Lionel Messi was awarded the FIFA 'Footballer of the Year 2023' and Spain's Aitana Bonmati was awarded the 'Women's Football of the Year 2023' award at the 'FIFA Awards 2023' ceremony held in London.

Places in News

Nauru

Recently, Nauru announced to recognise the People's Republic of China under one-China principle and breaks the diplomatic ties with the Taiwan authorities.

- **Capital:** Yaren
- **Location:** Nauru, a part of Micronesia, is the world's smallest republic and the third-smallest country in the world, located in the northeast of Australia.

Boundaries:

- This island is surrounded by a fringing coral reef, which is exposed at low tide and dotted with pinnacles.
- Neighbouring islands territories are Kiribati Solomon, and Banaba.

Physical Features:

- Command Ridge is the highest point in Nauru.
- Nauru is composed of phosphate rock in the Pacific Ocean.
- The climate of Nauru is hot and very humid throughout the year because of its proximity to the equator and the ocean.



Senegal

Recently, it has been found that the Senegal's pink lake (Lake Retba or Lac Rose) is on the verge of disappearing due to sudden increase in nitrate levels.

- **Capital:** Dakar
- **Location:** Senegal is a country in West Africa, located at the westernmost point of the continent. It also lies in a depression known as the Senegal-Mauritanian Basin.
- **Boundaries:** Senegal shares its border with Mali (East), the Atlantic Ocean (West), Mauritania (North), Guinea (South) Gambia (Southeast) and Guinea-Bissau to the Southwest.

Physical features:

- Baunez Ridge is the highest point in Senegal.
- The Senegal and the Saloum are the prominent major rivers in Senegal.
- The Galeakouto is the most prominent mountain in Senegal.
- Some important minerals like, Phosphates, limestone, gold and zircon deposits are also found in the country.



Important Schemes & Initiatives

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- ✓ **Animal Pandemic Preparedness Initiative (APPI)**
- ✓ **Animal Health System Support for One Health (AHSSOH) Initiative**
- ✓ **PRET Initiative**
- ✓ **SUPREME initiative**
- ✓ **Smart Cities Mission**
- ✓ **National Medical Devices Policy**
- ✓ **PM SHRI School**
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- ✓ **Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)**
- ✓ **Scheme for Promotion of Bulk Drug Parks**
- ✓ **Pradhan Mantri Jan Dhan Yojana**
- ✓ **MUDRA**
- ✓ **Stand Up India**
- ✓ **Atal Pension Yojana**
- ✓ **National Infrastructure Pipeline**
- ✓ **Ayushman Arogya Mandir**
- ✓ **Pradhan Mantri TB Mukta Bharat Abhiyaan**
- ✓ **Ayushman Bharat Digital Mission**
- ✓ **Pradhan Mantri Jan Vikas Karyakram**

APPI & AHSSOH Initiative

Ministry of Fisheries, Animal Husbandry, and Dairying has inaugurated the “Animal Pandemic Preparedness Initiative (APPI)” & Animal Health System Support for One Health (AHSSOH) initiative under the aegis of the National One Health Mission.

Animal Pandemic Preparedness Initiative (APPI):

It would provide a “integrated disease reporting system for enhanced zoonotic and other animal disease surveillance.”

Activities under the initiative:

- Joint investigation and epidemic response teams (national and state) have been established.
- Create a comprehensive integrated disease surveillance system (based on the National Digital Livestock Mission).
- Regulatory system strengthening (e.g., Nandi online portal and field trial guidelines).
- Developing illness prediction algorithms and early warning systems.
- Disaster Mitigation Planning with the National Disaster Management Authority.
- Begin focused R&D to create vaccines, diagnostics, and treatments for priority illnesses.
- Create genetic and environmental surveillance tools to increase disease detection’s timeliness and sensitivity.

Animal Health System Support for One Health (AHSSOH):

- It is a joint initiative of the Department of Animal Husbandry and Dairying and the World Bank.
- Its goal is to use the One Health concept to establish an ecosystem for better animal health management.
- Initially it will be implemented in five states, with the goal of increasing the ability of stakeholders involved in animal health and disease management.

What is One Health?

- One Health is an integrating concept that brings together multiple sectors to tackle health, productivity, and conservation concerns, and it has significant implications for India.
- WHO established the One Health Initiative to unify human, animal, and environmental health efforts throughout the Organisation.
- As part of the One Health Quadripartite, WHO collaborates with the Food and Agriculture Organisation of the United Nations (FAO), the United Nations Environment Programme (UNEP), and the World Organisation for Animal Health (WOAH).

The World Health Organization (WHO) has launched the PRET initiative .

About PRET Initiative

- The Preparedness and Resilience for Emerging Threats (PRET) initiative is an innovative approach to improve the disease pandemic preparedness.
- It recognizes that the same systems, capacities, knowledge, and tools that can be leveraged and applied for groups of pathogens based on their mode of transmission (respiratory, vector-borne, foodborne etc.).
- PRET incorporates the latest tools and approaches for shared learning and collective action established during the COVID-19 pandemic and other recent public health emergencies.
- It places the principles of equity, inclusivity, and coherence at the forefront.
- PRET provides a platform for national, regional and global stakeholders to collaborate to strengthen preparedness.
- It recognizes that there are three tiers of systems and capacities relevant to pandemic preparedness:
 - » Those that are cross-cutting for all or multi-hazards.
 - » Those that are relevant for groups of pathogens (respiratory, arboviruses etc.).
 - » Those that is specific to a pathogen.

SUPREME Initiative

The Ministry of Science and Technology has launched the Support for Up-gradation Preventive Repair and Maintenance of Equipment (SUPREME) initiative to provide financial support for the upgradation and maintenance of analytical instrumentation facilities (AIFs).

About SUPREME Initiative:

- It seeks to provide financial support for the upgradation and maintenance of analytical instrumentation facilities (AIFs) created under the ministry of science and technology.
- It is a first-of-its-kind programme by the government, extends financial support for repair, upgradation, maintenance, retrofitting, or acquiring additional attachments to increase functional capabilities of existing AIFs.
- Such facilities at institutions recognised by the University Grants Commission (UGC) are eligible to apply for grants under SUPREME.
- The duration of support will be for a period not exceeding 3 years.
- The funding pattern in the scheme would be 75:25 for all private and government-owned institutions (except for state-funded institutions

PRET Initiative

for which 100% funding would be considered).

- **Nodal Ministry:** Ministry of Science and Technology

Smart Cities Mission

The Union Housing and Urban Affairs Ministry (MoHUA) has extended the deadline for the Smart Cities Mission from June 2023 to June 2024.

About Smart Cities Mission:

Smart Cities Mission in India was launched by Prime Minister Narendra Modi on June 25, 2015. Smart Cities Mission is an urban renewal and retrofitting programme launched by the Government of India to develop smart cities and make them citizen friendly and sustainable. The Union Ministry of Urban Development is responsible for implementing the mission in collaboration with state governments.

Objective

- The objective of the smart city initiative is to promote sustainable and inclusive cities that provide core infrastructure to give a decent quality of life, a clean and sustainable environment through application of some smart solutions such as data-driven traffic management, intelligent lighting systems, etc.

Countries Supporting India's Smart Cities Mission:

- Spain has proposed to cooperate with India to develop Delhi as smart city.
- United States has decided to develop Visakhapatnam (Andhra Pradesh), Allahabad (Uttar Pradesh) and Ajmer (Rajasthan) as smart cities.
- Germany has inked a deal with India to develop Bhubaneswar (Odisha), Kochi (Kerala) and Coimbatore (Tamil Nadu) as smart cities.
- Japan has decided to assist India with the development of Chennai, Ahmedabad and Varanasi as smart cities.
- France has decided to support three Indian cities Chandigarh, Lucknow and Puducherry.
- Singapore has helped in development of Amravati, the new capital of Andhra Pradesh, as a smart city.

National Medical Device Policy

Union government notified the National Medical Device Policy 2023. The new Policy aims to reduce this dependence to nearly 30% in the next few years and make India one of the top five global manufacturing hubs.

Key points of the policy:

- The policy aims to achieve a 10-12% global

market share in the next 25 years, with the immediate short-term goal being a \$50 billion industry by 2030.

- The National Medical Devices Policy will promote research and development, establish Centers of Excellence in academic and research institutions, promote innovation hubs, and support start-ups.
- The policy will make partnerships with foreign academic institutes and industry organizations to develop med-tech.
- It will also create a dedicated export promotion council for the sector to improve brand positioning and awareness, promote studies and projects to learn the best global practices of manufacturing and adopt globally successful models in India.

PM SHRI School

The Ministry of Education has shortlisted around 9,000 schools from across the country for its flagship Pradhan Mantri Schools for Rising India (PM SHRI). The institutions were selected from over 2.5 lakh government schools.

About PM SHRI Schools:

- The PM SHRI scheme is a centrally sponsored scheme launched by the Ministry of Education in September 2022.
- This initiative is intended to develop more than 14500 PM SHRI Schools managed by Central Government/State/UT Government/local bodies including KVS and NVS in which every student feels welcomed and cared for, where a safe and stimulating learning environment exists, where a wide range of learning experiences are offered, and where good physical infrastructure and appropriate resources conducive to learning are available to all students.

CITIIS 2.0

The Union Cabinet has approved the City Investments to Innovate, Integrate, and Sustain (CITIIS) 2.0 programme, which would promote circular economy in 18 smart cities selected through a competition.

Key features:

- The initiative will be funded through loans from the French Development Agency (AFD) and the Kreditanstalt für Wiederaufbau (KfW), a German development bank, as well as a grant of Rs 106 crore from the European Union.
- The plan will begin this year and run through 2027, with funding from the National Institute of Urban Affairs.
- The initiative is to support competitively selected projects that promote the circular economy, with

a focus on integrated waste management at the city level, climate-related reform activities at the state level, and institutional development and knowledge dissemination at the national level.

MAHIR

The Ministry of Power and the Ministry of New and Renewable Energy have jointly launched a Mission on Advanced and High-Impact Research (MAHIR) to quickly identify emerging technologies in the power sector and develop them indigenously, at scale, for deployment within and outside India.

Sagar Samridhi

On 9th June 2023, Union Minister Sarbananda Sonowal, Ministry of Ports, Shipping & Waterways (MoPSW), launched “Sagar Samridhi – Waste to Wealth”, an online dredging monitoring system as part of the ‘Waste to Wealth’ initiative of the MoPSW.

About Sagar Samridhi:

- The National Technology Centre for Ports, Waterways, and Coasts (NTCPWC) created this system.
- The system replaces the previous Draught & Loading Monitor (DLM) system.
- The method seeks to improve efficiency and contract management while also encouraging the proper reuse of dredged material.

Great Nicobar Project

National Green Tribunal (NGT) has stayed the Rs 72,000-crore Great Nicobar project and constituted an expert committee to examine aspects of the clearance granted by the Ministry of Environment, Forest and Climate Change.

About the Great Nicobar Project:

- The Great Nicobar Project is to be built on over 130 sq km of primeval forest with rich biological diversity.
- The scheme was launched in 2020 during the pandemic. Port Blair-based Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO) was charged with implementing the project.

GREAT Scheme

Centre announces up to Rs 50 lakh grant for technical textiles startups.

About GREAT scheme:

- The scheme falls under the Ministry of Textiles.
- The Startup Guidelines for Technical Textiles-Grant for Research and Entrepreneurship across Aspiring Innovators in Technical Textiles (GREAT) providing grant-in-aid of up to Rs 50 lakh for up to a period of 18 months to the incubators IITs, NITs, Textiles Research Associations, and Centres of Excellence.
- **Aim** - GREAT aims to promote innovation and entrepreneurship within the technical textiles sector. It promotes development of the technical textiles startup ecosystem in India, especially in niche sub-segments like bio-degradable and sustainable textiles, high-performance and speciality fibres, and smart textiles etc.

Bharat NCAP

Union Ministry of Road Transport and Highways has launched the much-awaited India New Car Assessment Program (Bharat NCAP) which aims at improving road safety standards of motor vehicles up to 3.5 tonnes.

About Bharat NCAP:

- The NCAP program in India was started in 2011 but gained momentum in 2016 when the government decided to make a standard to reduce road accidents in the country.
- It is a voluntary program in which the base variant of a given model will be tested, based on the Automotive Industry Standard (AIS) 197.
- The program will be administered by the Central Institute of Road Transport (CIRT).

PM Vishwakarma Yojana

Prime Minister has launched the 13,000 Crore PM Vishwakarma Yojana (PMVY) for the upliftment of artisans and craftsmen.

What is Vishwakarma Yojana?

The Vishwakarma Scheme has been launched to provide financial assistance to the craftsmen and artisans of the country.

Key points related to the plan:

- The Scheme will be conjointly implemented by the Ministry of Micro, Small and Medium Enterprises (MoMSME), the Ministry of Skill Development and Entrepreneurship (MSDE) and the Department of Financial Services (DFS), Ministry of Finance (MoF), Government of India.
- The additional Secretary & Development Commissioner (MSME) in the Ministry of MSME will be the focal point for all aspects of implementation and coordination.
- It will be initially implemented for five years up

to 2027-28.

National Framework for Climate Services

India has launched its first national-level framework towards providing climate services and information. The National Framework for Climate Services (NFCS) is led by the India Meteorological Department (IMD). NFCS is based on the Global Framework for Climate Services (GFCS).

About NFCS:

- In line with the global framework, national frameworks will be based on country-specific climate and stakeholder needs.
- It will be a multi-stakeholder platform to enable the development and delivery of climate services.
- The goal of NFCS is to coordinate institutions so that they can work together to co-design, co-produce, communicate, deliver, harness climate action.
- **Nodal agency:** IMD will be the nodal agency for formulation and implementation of the national framework in India.

PM SVANidhi

- **Launched on:** June 1, 2020
- This is a micro-credit scheme, facilitating a working capital collateral-free loan with a 7% interest subsidy.
- This scheme aims to empower Street Vendors by not only extending loans to them but also for their holistic development and economic upliftment.
- The scheme is a Central Sector Scheme, fully funded by the Ministry of Housing and Urban Affairs.
- **Implementing Agency:** Small Industries Development Bank of India.
- **Beneficiaries:** 50 lakh+.

Objectives:

- Facilitate collateral-free working capital loan up to Rs. 10,000, of 1 year tenure, with an enhanced loan of Rs. 20,000 and Rs. 50,000 in the second and third tranches respectively, on repayments of earlier loans.
- Incentivize regular repayment, through interest subsidy @ 7% per annum;
- Reward digital transactions, by way of cashback up to Rs. 1,200 per year.

Aspirational Blocks Programme

The Aspirational Blocks Programme (ABP) was launched by the Prime Minister on January 7,

2023, during the 2nd National Conference of Chief Secretaries. The Programme focuses on improving governance to enhance the quality of life of citizens in the most difficult and underdeveloped blocks of India by converging existing schemes, defining outcomes, and monitoring them on a constant basis.

Pillars of ABP:

- Convergence (of Central & State Schemes).
- Collaboration (of NITI Aayog, Central Ministries and Departments, State Governments and District and Block Administration).
- Competition among blocks driven by a spirit of mass Movement.

APAAR

APAAR, which stands for Automated Permanent Academic Account Registry, is envisioned as a special ID system for all students in India, starting from childhood. This is part of the 'One nation, One Student ID' initiative of the Union government, stemming from the new National Education Policy of 2020.

Investor Risk Reduction Access Platform

The Chairperson of Securities and Exchange Board of India (SEBI), Madhabi Puri Buch has recently launched the Investor Risk Reduction Access Platform. This platform is jointly developed by all the stock exchanges- BSE, NSE, NCDEX, MCX and Metropolitan Stock Exchange of India.

About the Platform:

- The platform was developed to provide security net to investors. This platform will reduce risks in case of technical glitches at the trading member's end at the both the trading member's end and disaster recovery site.

Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM-JANMAN)

PM Narendra Modi launched a Rs 24,000-crore project for vulnerable tribal groups on the birth anniversary of tribal icon Birsa Munda from Jharkhand's Khunti district.

About PM-JANMAN:

- The scheme aims to provide a number of facilities to Particularly Vulnerable Tribal Groups (PVTGs). These include housing, drinking water and sanitation, access to education, health and nutrition, road and telecom connectivity and

sustainable livelihood opportunities.

- The Ministry of AYUSH will set up AYUSH Wellness Centers as per the existing norms and AYUSH facilities will be extended to PVTG settlements through mobile medical units.
- The Ministry of Skill Development and Entrepreneurship will facilitate skill and vocational training in PVTG settlements, multipurpose centers and hostels as per the appropriate skills of these communities.
- The scheme provides for around 4.9 lakh pucca houses at a cost of Rs 2.39 lakh per house; 500 hostels at Rs 2.75 crore per unit; 2,500 Anganwadi centres; installation of mobile towers in 3,000 villages; and 8,000 km of road connectivity.
- The Centre's share is Rs 15,336 crore and states will contribute Rs 8,768 crore. Nine ministries will be involved in carrying out the interventions.
- The government will make Rs 15,000 available under the Development Action Plan for Scheduled Tribes to implement the mission over the next three years.

About PVGT:

- As many as 75 tribal communities in 18 states and the Union Territory of Andaman and Nicobar Islands have been categorised as PVTGs, which are backward in social, economic and education indicators. As per the 2011 Census, India has a total Scheduled Tribe population of 10.45 crore.
- According to data from the Ministry of Tribal Affairs and the 2011 Census, Odisha has the largest population of PVTGs at 8.66 lakh followed by Madhya Pradesh at 6.09 lakh and Andhra Pradesh (which then included Telangana) at 5.39 lakh. The total PVTG population is more than 40 lakh.

RCS-UDAN

- RCS-UDAN was launched in 2016 to enable air operations on unserved/underserved routes connecting different regions, promote balanced regional growth and make flying affordable for masses.
- RCS-UDAN is a self-financing scheme, with a nominal levy for each departure on main (trunk) routes to cross subsidize the operations of UDAN flights.

Digi Yatra

- Digi yatra is a project conceived to achieve contactless, seamless processing of passengers at Airports based on Facial Recognition Technology

(FRT).

- The project basically envisages that any traveller may pass through various check points at the airport through paperless and contactless processing using facial features to establish the identity.
- Passenger can enroll on the platform from the comfort of their home.
- Digi Yatra has been launched at following 13 airports: Delhi, Bengaluru, Varanasi, Hyderabad, Pune, Kolkata, Vijayawada, Ahmedabad, Mumbai, Cochin, Guwahati, Jaipur and Lucknow.
- Since its launch, more than 91 lakh passengers have availed the facility of Digi Yatra.
- Eventually, all the airports will be covered with Digi Yatra in a phased manner.

PM MITRA

The Government has launched PM Mega Integrated Textile Region and Apparel (PM MITRA) Parks Scheme to develop world class infrastructure. PM MITRA Parks Scheme are inspired by the 5F vision:

- Farm to Fibre to Factory to Fashion to Foreign.
- Parks will offer an opportunity to create an integrated textiles value chain right from spinning, weaving, processing/dyeing and printing to garment manufacturing at a single location.
- World-class industrial infrastructure would attract cutting edge technology and boost FDI and local investment in the sector.
- Centre and States to form SPVs for setting up PM MITRA Parks. These parks will be developed in PPP mode.

PLI Scheme:

- The Government has approved the Production Linked Incentive (PLI) Scheme for Textiles over a five year period to promote production of MMF Apparel, MMF Fabrics and products of Technical Textiles in the country to enable Textile sector to achieve size and scale and to become competitive.
- The incentive will be provided to the companies under the scheme on achieving the threshold investment and threshold turnover and thereafter incremental turnover.

Kasturi Cotton Bharat

- The programme is a first of its kind branding, traceability and certification exercise carried out jointly by the Government of India, Trade Bodies and Industry to promote Indian Cotton.
- Stakeholders across the supply chain will be

involved in a collaborative effort to promote and enhance the value of Indian Cotton across the domestic and overseas markets.

National Technical Textile Mission

It was approved by the Cabinet Committee on Economic Affairs (CCEA) in the year 2020 with a total outlay of Rs 1480 crore. The implementation period is four years from FY 2020-21 to FY 2023-24.

Key pillars of NTTM include:

- Research Innovation & Development
- Promotion and Market Development
- Education, Training and Skilling
- Export Promotion

PM-DevINE

Prime Minister's Development Initiative for North East (PM-DevINE). Prime Minister's Development Initiative for North East Region (PM-DevINE), was announced as a new Central Sector scheme, with 100% Central funding, in the Union Budget 2022-23. It was approved by the Union Cabinet on 12 October, 2022 with a total outlay of Rs. 6,600 crore for the 4-year period from 2022-23 to 2025-26.

Objectives:

- Fund infrastructure convergently, in the spirit of PM Gati Shakti.
- Support social development projects based on felt needs of the NER.
- Enable livelihood activities for youth and women.
- Fill the development gaps in various sectors.

North East Special Infrastructure Development Scheme (Roads)

- The North East Special Infrastructure Development Scheme (NESIDS) was approved during 2017-18 and was implemented till 31.03.2022.
- During the process of extension of the NESIDS w.e.f. 01.04.2022, the erstwhile NESIDS has been restructured into two components:
 - » NESIDS (Roads)
 - » NESIDS (Other than Road Infrastructure)

Schemes of NEC

- A Central Sector scheme named "Schemes of North Eastern Council (NEC), fully funded by the Government of India, was under implementation since 10th Finance Commission period.

- It was continued till 31.03.2022 to fill up gaps in overall development of the Region.
- Schemes of NEC (2022-26) continued unaltered with critical gap interventions in multiple sectors for speedy and holistic development of NER.
- The Scheme will cover all the eight states of the North Eastern Region.

MDoNER Data Analytics Dashboard

The Ministry has launched Data Analytics Dashboard on 12.10.2023 which has the data of 112 schemes across 55 Departments and Ministries. This Dashboard will help MDoNER in

- Data driven decision making.
- Ease of operations.
- Centralized monitoring.
- Policy level decision tool.
- Information integration.

Jal Jeevan Mission

Jal Jeevan Mission, launched by Prime Minister Shri Narendra Modi in August 2019, is a transformative initiative dedicated to providing safe and ample drinking water to all rural households. Over the past four years, this mission has achieved a significant milestone, reaching 13.91 crore households with tap water connections and profoundly impacting rural communities. In 2023, the mission crossed several milestones and progressed from 11 crore connection at the start of the year to nearly 14 crore tap connections by the end of the year.

GOBARdhan

GOBARdhan is an important initiative of SBM-G. The objective is to generate wealth and energy by converting bio-waste including animal waste, agri-residue into bio-slurry and biogas, reduce emission of methane gas and contribute towards circular economy thereby improving the lives of rural communities. The initiative involves various stakeholder Departments/ Ministries which provide an enabling environment for Biogas/ Compressed Biogas (CBG) sector. As on date, 1150 biogas plants have been registered and more than 600 community/ cluster level Biogas Plants are functional.

National Water Mission

The National Water Mission was launched in 2011. With the per capita availability of water-reducing every year, reducing groundwater tables,

prolonged droughts, floods due to excess rains; water conservation and storage is a cause of very significant concerns for every nation.

Initiatives:

- Jal Shakti Abhiyan- Catch the Rain (JSA:CTR) 2023 campaign.
- Setting up of Bureau of Water Use Efficiency (BWUE)

Goals of NWM:

- **Goal 1:** Comprehensive water data base in public domain
- **Goal 2:** Assessment of the impact of climate change on water resources
- **Goal 3:** Promotion of citizen and state actions for water conservation, augmentation and preservation, and Focused attention to vulnerable areas including over-exploited areas
- **Goals 4:** Increasing water use efficiency by 20%
- **Goal 5:** Promotion of basin level integrated water resources management

National Hydrology Project (NHP)

- It was started in 2016 as a Central Sector Scheme with 100% grant to implementing agencies on pan India basis.
- It is an initiative of the Ministry of Jal Shakti and is supported by the World Bank.
- It has a budget outlay of Rs. 3680 crore to be spent over a period of 8 years.

Aim:

- To improve the extent, reliability and accessibility of water resources information.
- To strengthen the capacity of targeted water resource management institutions in India.
- To facilitate acquisition of reliable information efficiently which would pave the way for an effective water resource development and management.

Project Beneficiaries:

- Central and state implementing agencies responsible for surface and/or groundwater planning and management, including river basin organizations.
- Users of the Water Resources Information System (WRIS) across various sectors and around the World.

Pradhan Mantri Krishi Sinchayee Yojana

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was launched during the year 2015-16 to enhance physical access of water on farm and expand

cultivable area under assured irrigation, improve on-farm water use efficiency, introduce sustainable water conservation practices, etc.

Components:

- Pradhan Mantri Krishi Sinchayee Yojana – Har Khet Ko Pani – Ground Water (PMKSY-HKKP-GW)
- Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)-Accelerated Irrigation Benefit Programme (AIBP)
- Watershed Development project

Atal Bhujal Yojana (Atal Jal)

Atal Bhujal Yojana (Atal Jal) is a Central Sector Scheme of Government of India with an outlay of Rs 6000 Crore, with focus on community participation and demand side interventions for sustainable ground water management in identified water stressed areas in 8213 water stressed Gram Panchayats of 229 administrative blocks/Talukas in 80 districts of seven States in the country viz. Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh. The scheme, partly funded by the World Bank, is being implemented from 1.04.2020 for a period of 5 years.

RAMP Scheme

- Launched on 30th June 2022 by the Hon'ble Prime Minister of India, "Raising and Accelerating MSME Productivity (RAMP)" is a Central Sector Scheme by the Ministry of Micro, Small & Medium Enterprises.
- RAMP Scheme aims at strengthening institutions and governance at the Centre and State, improving Centre-State linkages and partnerships and improving access of MSMEs to market and credit, technology upgradation and addressing the issues of delayed payments and greening of MSMEs.

Three sub-schemes were launched under RAMP viz.

- MSE-GIFT (MSE Green Investment and Financing for Transformation, with an outlay of Rs. 478 crore for providing interest subvention and guarantee for MSE loans for identified green technologies).
- MSE-SPICE (MSE Scheme for Promotion of Investment in Circular Economy), with an outlay of Rs. 472.50 crore for providing 25% capital subsidy to MSEs for adopting circular economy.
- MSE Scheme on Online Dispute Resolution for Delayed Payments with an outlay of Rs.188.97 crore.

ASPIRE

The aspire scheme was launched on 16th March 2015 by the Ministry of Micro, Small and Medium Enterprises (MSMEs). Scheme aims to create employment opportunities in the agro-rural sector. There are 2 components under ASPIRE:

- **Livelihood Business Incubator (LBI):** An entity set up for imparting skill development and incubation programs for promoting entrepreneurship and employment generation in agro-rural sector with special focus on rural and underserved areas. The main objective of LBI is to generate employment opportunity by facilitating formal, scalable micro-enterprise creation, and to provide skilling, up-skilling and re-skilling for unemployed, existing self-employed/ wage earners in new technologies.
- **ASPIRE Fund of Funds (FoF):** Managed by SIDBI, the FoF was created with a focus to invest through Alternate Investment Funds (AIFs), in early-stage scalable start-ups in need of support and nurturing to succeed in developing technology and business enterprise in the areas of innovation, entrepreneurship, developing forward and backward linkages with multiple value chain of manufacturing and service delivery in the agro-based sector. The total corpus of SIDBI FoF is Rs. 310 crore.

National Green Hydrogen Mission

The Ministry of New and Renewable Energy is implementing the National Green Hydrogen Mission, approved by the Union Cabinet on 4th January 2023, with an outlay of Rs. 19,744 crore. The overarching objective of the Mission is to make India the Global Hub for production, usage and export of Green Hydrogen and its derivatives.

Solar Parks

The Scheme for "Development of Solar Parks and Ultra Mega Solar Power Projects" was rolled out in December 2014, with aggregate capacity 20,000 MW. Further, the capacity of the Solar Park Scheme was enhanced from 20,000 MW to 40,000 MW in March 2017 by 2025-26.

- As on 30-11-2023, Ministry has approved 50 solar parks with an aggregate capacity of around 37,490 MW in 12 States across the country.
- In these approved parks, an aggregate capacity of 10,401 MW of solar projects has been commissioned, out of which 284 MW has been commissioned in the calendar year of 2023.

PM KUSUM

Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM) Yojana launched on March 2019 by the Government of India to increase the income of farmers and provide sources for irrigation and de-dieselisation the agricultural sector.

- The Government approved the expansion of PM KUSUM Scheme with revised targets of 49 lakhs pumps to be installed / solarized under Component B and C of the Scheme.

SAMARTH Mission

Ministry of Power set up a National Mission on the use of Biomass in coal-based thermal power plants, also known as SAMARTH mission. Since its inception in July 2021, the SAMARTH Mission is working tirelessly to strengthen the biomass co-firing initiative of GoI.

Revamped Distribution Sector Scheme (RDSS):

- The Government of India launched the Revamped Distribution Sector Scheme (RDSS) to help DISCOMs improve their operational efficiencies and financial sustainability by providing result-linked financial assistance to DISCOMs to strengthen supply infrastructure based on meeting pre-qualifying criteria and achieving basic minimum benchmarks. RDSS has an outlay of ~ Rs. 3.04 lakh Cr. over 5 years i.e., FY 2021-22 to FY 2025-26.

National Smart Grid Mission

- National Smart Grid Mission (NSGM) was established by Government of India in 2015 to plan and monitor implementation of policies and programmes related to Smart Grid activities in India. The primary aim of the Smart Grids is to improve reliability of the Electricity networks and make the grid amenable to renewable energy inputs through distributed generation.
- National Smart Grid Mission (NSGM) is designated to lead the assessments for Smart Distribution cities, under the guidance of Ministry of Power, with the technical assistance of USAID's South Asia Regional Energy Partnership (SAREP).

Street Lighting National Programme

1.3 crore LED streetlights were installed under Street Lighting National Programme. The Prime Minister, on 5th January, 2015 launched Street Lighting National Programme (SLNP) to replace conventional

street lights with smart and energy efficient LED street lights across India.

Unnat Jyoti by Affordable LEDs for ALL

The Prime Minister, on 5th January 2015 launched Unnat Jyoti by Affordable LED for All (UJALA) programme. Under UJALA scheme, LED bulbs, LED Tube lights and Energy efficient fans are being sold to the domestic consumers for replacement of conventional and inefficient variants.

National Biopharma Mission (NBM)

- The Union Ministry of Science and Technology launched the National Biopharma Mission under the Department of Science and Technology in June 2017
- NBM has enabled support for development of 15 vaccine candidates for cholera, influenza, covid-19 (early development) and related technologies; 21 biosimilar products and related technologies for diabetes, rheumatological and ophthalmic diseases, cancer; 29 medical devices & diagnostics

SVAMITVA

SVAMITVA (Survey of Villages and Mapping with Improvised Technology in Village Areas) Scheme was launched by the Prime Minister on National Panchayati Raj Day, 24th April 2020 with a resolve to enable economic progress of Rural India by providing “Record of Rights” to every rural household owner. The scheme aims to demarcate inhabited (Abadi) land in rural areas through the latest surveying drone-technology, is a collaborative effort of the Ministry of Panchayati Raj, State Revenue Departments, State Panchayati Raj Departments and Survey of India.

e-Gram Swaraj e-Financial Management System

eGramSwaraj, a Simplified Work Based Accounting Application for Panchayati Raj assists in enhancing the credibility of Panchayat through inducing greater devolution of funds to PRIs.

Gram Urja Swaraj Abhiyaan

The Ministry of Panchayati Raj has collaborated with the Ministry of New and Renewable Energy to include the Gram Panchayats under all its schemes focusing on adoption of renewable energy. This will enable that in the upcoming years, Gram Panchayats would evolve as self-sufficient in terms of energy and become producers of energy instead of only being consumers.

Pradhan Mantri Bhartiya Janaushadhi Pariyojana

- Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) was launched by the Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers, Government of India in November, 2008.
- PMBJP is a flagship scheme of the Department whereby quality generic medicines are made available at affordable prices to all through dedicated outlets known as Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJK). The Scheme is being implemented through the Pharmaceuticals & Medical Devices Bureau of India (PMBI), an autonomous society under the Department of Pharmaceuticals.

Scheme for Promotion of Bulk Drug Parks

- To promote setting up of bulk drug parks in the country, a scheme called “Promotion of Bulk Drug Parks” has been approved by Union Cabinet on 20th March, 2020.
- The objective is to provide world class common infrastructure facilities to units located in the parks which will help in significantly bringing down the manufacturing cost of bulk drugs and thereby make India self-reliant. This will increase the competitiveness of the domestic bulk drug industry as well as help to minimize country's dependence on imports.

National Medical Device Policy, 2023

- The Union Cabinet approved the National Medical Device Policy, 2023 on 26.04.2023. Policy aims to facilitate medical devices sector and guide it to achieve its missions through a set of strategies that will be covering six broad areas of interventions.
- The National Medical Devices Policy, 2023 mentions six (6) strategies for the promotion of the medical device industry:

- » Regulatory Streamlining
- » Enabling Infrastructure
- » Facilitating R&D and Innovation
- » Attracting investments in the Sector
- » Human Resources Development
- » Brand Positioning and Awareness Creation

Pradhan Mantri Jan Dhan Yojana

Pradhan Mantri Jan Dhan Yojana (PMJDY) was launched as the National Mission for Financial Inclusion on 28.8.2014. It aimed to ensure comprehensive financial inclusion of all households in the country by providing universal access to banking facilities with at least one basic bank account to every household, financial literacy, and social security cover.

MUDRA - Funding the Unfunded

- Launched on 8th April 2015
- **Purpose:** For financing income-generating small business enterprises in manufacturing, trading and service sectors, including activities allied to agriculture such as poultry, dairy, beekeeping, etc. Term loan and Working Capital requirements can both be met
- **Member Lending Institutions:** Banks, Non-Banking Financial Companies (NBFCs) & Micro Finance Institutions (MFIs)
- **Categories:** Shishu – upto Rs.50,000/-, Kishor – above Rs.50,000 & up to Rs.5.00 lakh, Tarun – above Rs.5.00 lakh & up to Rs.10.00 lakh.
- No insistence on collateral
- **Rate of Interest:** Decided by lending institution, interest is charged only on the money held overnight by borrower

Stand Up India Scheme

- Launched on 5th April 2016
- **Objective:** To facilitate loans from Scheduled Commercial Banks (SCBs) of value between Rs. 10 lakh and Rs.1 Crore to Scheduled Caste (SC) / Scheduled Tribe (ST) and woman borrower i.e. at least two loans per bank branch for setting up a greenfield enterprise. Greenfield enterprises in trading, manufacturing, services sectors & Activities allied to agriculture
- Scheme also envisages extending handholding support to the potential borrowers. It also provides for convergence with Central/State Government schemes.

Atal Pension Yojana (APY)

- Atal Pension Yojana (APY) is a flagship social security scheme of the Government of India, launched on 9th May 2015 by Hon'ble Prime Minister Shri Narendra Modi with the objective of providing financial security during Old-age to all citizens of India, especially the poor, the underprivileged and the workers in the unorganised sector.
- Individuals between 18 to 40 years of age who have a savings bank account and who are not an income taxpayer can enrol under the scheme.
- The scheme provides a lifetime guaranteed pension to the subscriber ranging from Rs. 1000 to Rs. 5000 per month (as selected by the subscriber) from the age of 60 years.

National Infrastructure Pipeline (NIP)

Infrastructure is one of the key enablers for economic growth. The National Infrastructure Pipeline (NIP) comprises brownfield and greenfield infrastructure projects of above INR 100 Crores across both economic and social infrastructure sectors. The pipeline consists of projects implemented by all the States and Union Territories of India and 22 Infrastructure Ministries of Govt. of India.

Ayushman Arogya Mandir

The first component pertains to creation of 1,50,000 Health and Wellness Centres (AB-HWCs), now renamed as Ayushman Arogya Mandir, by upgrading the Sub Health Centres (SHCs) and rural and urban Primary Health Centres (PHCs), in both urban and rural areas, to bring health care closer to the community.

Pradhan Mantri TB Mukta Bharat Abhiyaan

- Pradhan Mantri TB Mukta Bharat Abhiyaan was launched by the Honorable President of India on September 9, 2022, with the objectives to provide additional support to TB patients in order to improve treatment outcomes, augment community involvement and leverage Corporate Social Responsibility (CSR) activities. As per the clarion call of the Hon'ble Prime Minister of India, Shri Narendra Modi at Delhi End TB Summit in March 2018 to eliminate TB by 2025, five years ahead of Sustainable Development Goal, PMTBMA initiative was launched to bring

together people from all backgrounds into a 'Jan Andolan' and escalate the progress toward TB elimination.

Ayushman Bharat Digital Mission

- Prime Minister Narendra Modi launched the Ayushman Bharat Digital Mission (ABDM) on September 27, 2021.
- The Ayushman Bharat Digital Mission-ABDM (earlier known as National Digital Health Mission) was launched with a vision to create a national digital health ecosystem that supports universal health coverage in an efficient, accessible, inclusive, affordable, timely, and safe manner.
- ABDM aims to enable the creation of longitudinal electronic health records across the health spectrum for citizens, make healthcare accessible for citizens, reduce the cost of care and enable greater efficiencies in health service delivery.

Pradhan Mantri Jan Vikas Karyakram

- Pradhan Mantri Jan Vikas Karyakram (PMJVK) is a Centrally Sponsored Scheme, which is being implemented by the Ministry of Minority Affairs with the objective to develop infrastructure projects, which are community assets, in the identified areas with development deficits for socio-economic development of the said areas.
- In 2022-23, the revised PMJVK has been approved by the Government for continuation over the 15th Finance Commission Cycle i.e., during FY 2022-23 to 2025-26. The Revised PMJVK Scheme is implemented for all Districts of the Country including all the Aspirational Districts. Projects are approved in the identified areas where the concentration of minority population is more than 25% in the catchment area (15 KM radius).

Pradhan Mantri Matsya Sampada Yojana

- The Cabinet on 20th May 2020 approved the Pradhan Mantri Matsya Sampada Yojana (PMMSY) with total investment of Rs 20,050 crore comprising of (i) Central share of Rs 9,407 crore (ii) State share of Rs 4,880 crore and (iii) Beneficiaries contribution of Rs 5,763 crore.
- PMMSY was launched by the Prime Minister on 10th September 2020 as part of the COVID-19 Relief Package (AatmaNirbhar Bharat package) of the Government of India for implementation in 5 years from FY 2020-21 to FY 2024-25 in all States/Union Territories.

Objectives of PMMSY:

- Harness the potential of the fisheries sector in a sustainable, responsible, inclusive, and equitable manner.
- Enhance fish production and productivity through expansion, intensification, diversification, and productive utilization of land and water.

Vidyanjali

- Vidyanjali-the school volunteer initiative is an online portal that acts as a facilitator by connecting volunteers directly to the schools.
- The effort is to bridge the knowledge/skill / human resource and infrastructure gap in the schools by tapping the potential available in civil society.

Multi Modal Logistics Parks (MMLPs)

- The Ministry finalized the Model Concessionaire Agreement (MCA) for the MMLPs to be developed under the Bharatmala Pariyojana in October 2021 through an elaborate process of inter-Ministerial consultations.
- In July 2017, the Government of India approved a plan to build 35 MMLPs. State governments will provide the land needed for the projects, which will then be taken up through public-private partnerships.

MMLPs have 5 key functions:

- Freight aggregation and distribution,
- Multi-modal freight transport,
- Integrated storage and warehousing,
- Information technology support, and
- Value-added services.

Harit Shrey Scheme

Mormugao Port launched "Harit Shrey" scheme offering incentives to ships with good ESI score. The aim is to promote green initiatives and improve sustainability of port operations. M.V August Oldendorff was the first ship to receive the green incentive.

Pradhan Mantri AnusuchitJaati Abhyuday Yojana

- Pradhan Mantri AnusuchitJaati Abhyuday Yojana (PM-AJAY) merged 03 erstwhile Centrally Sponsored Schemes, namely, Pradhan Mantri Adarsh Gram Yojana(PMAGY), Special Central

Assistance to Scheduled Castes Sub Plan(SCA to SCSP) and Babu Jagjivan Ram Chhatrawas Yojana(BJRCY) with an aim to reduce poverty of the SC communities by generation of additional employment opportunities through Skill development, income generating schemes and other initiatives; and to improve socio-economic developmental indicators by ensuring adequate infrastructure and requisite services in the SC dominated villages.

- The Scheme has now the following three components:
 - » Development of SC dominated villages into an 'Adarsh Gram'
 - » Grants-in-aid for District/State-level Projects for socio-economic betterment of SCs
 - » Construction of Hostels in Higher Educational Institutions

Pradhan Mantri Dakshta Aur Kushalta Sampann Hitgrahi

- PM-DAKSH Yojana, a Central Sector Scheme, was launched during 2020-21. The main objective of the Scheme is to enhance competency level of the target groups (SCs, OBCs, EBCs, DNTs, Safai Karamcharis including waste pickers etc) to make them employable both in self-employment and wage-employment for their socio-economic development.

National Digital Livestock Mission

- Department of Animal Husbandry & Dairying has taken up a digital mission, "National Digital Livestock Mission (NDLM) with NDDB.
- This will help in improving the productivity of the animals, control diseases that affect both animals and humans, ensure quality livestock and livestock both for domestic and export markets.

National Programme For Dairy Development

- "National Programme for Dairy Development (NPDD)" is implemented across the country since Feb-2014. In July 2021, National Programme for Dairy Development (NPDD) scheme has been restructured with the aims to enhance quality of milk and milk products and increase share of organised procurement, processing, value addition and marketing for implementation from 2021-22 to 2025-26. This scheme has two (2)

components:-

- » **Component A:** To create and strengthen infrastructure for quality milk including cold chain infrastructure linking the farmer to the consumer.
- » **Component B of NPDD:** Dairying through Cooperatives (DTC)

Green Credit Programme (GCP)

- Green Credit Initiative was launched by Hon'ble Prime Minister on the side-lines of COP 28. It is an initiative within the governments Lifestyle for Environment or LIFE movement. The Green Credit Rules, 2023, has been notified on 12th October 2023 under the Environment Protection Act 1986. These rules put in place a mechanism to encourage voluntary environmental positive actions resulting in issuance of green credits. In its initial phase, voluntary tree plantation is envisaged on degraded land, waste land, watershed area etc. under the control and management of Forest departments.

Unique Land Parcel Identification Number (ULPIN) or Bhu-Aadhar

- Unique Land Parcel Identification Number (ULPIN) system is a 14 digit Alpha-numeric unique ID for each land parcel based on Geo-coordinates of vertices of the parcel which is of international standard and complies with Electronic Commerce Code Management Association (ECCMA) standard and Open Geospatial Consortium (OGC) standard, is being implemented across the country. ULPIN will have ownership details of the plot besides its size and longitudinal and latitudinal details. This would facilitate real estate transactions, help resolve property boundaries issues and improve disaster planning and response efforts, etc.

Skill India Digital

Skill India Digital (SID) is an innovative digital platform centred around Skills and Jobs, leveraging the robust framework of India Stack Global, ensuring top-notch security and scalability. This comprehensive platform offers various key features. Firstly, it facilitates DISCOVERY & RECOMMENDATION through advanced AI/ML technology, aiding users in identifying suitable skill sets. Secondly, it hosts a digital job exchange, connecting job seekers with relevant opportunities seamlessly.

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