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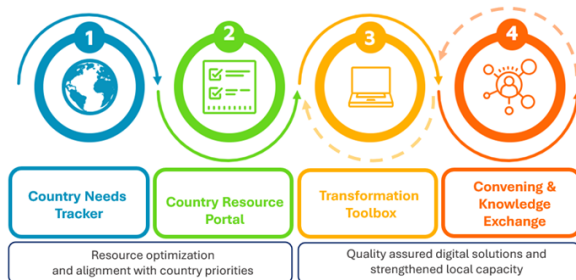
WHO'S GLOBAL INITIATIVE ON DIGITAL HEALTH (GIDH)

Context

- The World Health Organization (WHO) recently launched the Global Initiative on Digital Health (GIDH), a platform for sharing knowledge and digital products among countries.

Global Initiative on Digital Health (GIDH)

- The GIDH will be a **WHO Managed Network** ("Network of Networks") that will promote **equitable access to digital health** by addressing challenges such as duplication of efforts and "products-focused" **digital health transformation**.
- Aim:**
 - ALIGN** efforts to support the Global Strategy on Digital Health 2020–2025;
 - SUPPORT** quality assured technical assistance to develop and strengthen standards-based and interoperable systems aligned to global best practices, norms and standards;
 - FACILITATE** the deliberate use of quality assured digital transformation tools that enable governments to manage their digital health transformation journey.
- The GIDH will focus on following **four foundational pillars:**



Digital health in India

- Digital health refers to the **utilization of digital technologies** across the healthcare ecosystem, aiming to **improve accessibility, affordability, and efficiency** of healthcare services for individuals and healthcare providers.



Significance

- Improved Access:** Digital tools can reach remote areas, connect patients to specialists, and enable virtual consultations, expanding healthcare access.
- Enhanced Affordability:** Telemedicine, electronic prescribing, and data-driven resource allocation can potentially reduce healthcare costs.
- Personalized Care:** Electronic health records (EHRs) and wearable devices facilitate personalized treatment plans and preventive care.
- Empowered Patients:** Digital platforms can educate patients, enhance medication adherence, and promote self-management of chronic conditions.
- Streamlined Healthcare Delivery:** Digitization empowers efficient data management, administrative processes, and resource optimization within healthcare systems.

Challenges

- Infrastructure Gaps:** Unequal access to internet connectivity, electricity, and digital devices hinders widespread adoption.
- Data Privacy and Security:** Concerns and regulations regarding patient data privacy and security require robust solutions.
- Digital Literacy:** Bridging the digital divide through training and awareness programs is crucial for patient and provider involvement.
- Interoperability and Standards:** Seamless integration and exchange of data across different healthcare IT systems is needed.
- Skilled Workforce:** Building a workforce equipped to handle digital health technologies and data analysis is vital.

Government initiatives

- National Digital Health Mission (NDHM):** Aims to create a national digital health ecosystem with unique health IDs, EHRs, and a health data exchange platform.



- **Ayushman Bharat Digital Mission (ABDM):** Focuses on creating a digital infrastructure for ABHIM, with health registries, e-claim processing, and telemedicine.
- **E Sanjeevani Telemedicine Platform:** Facilitates virtual consultations between doctors and patients across the country.
- **Jan Arogya Setu App and COWIN Platform:** Provides access to health services, appointment booking, and COVID-19 information.
- **Digital Aarogya Mitra (DAM):** A community health worker program leveraging technology for data collection and community health interventions.

Way Ahead

- Digital health is a **proven accelerator to advance health outcomes and achieve Universal Health Coverage (UHC)** and health-related Sustainable Development Goals. Hence, it needs to be made **integral to every health policy**.
- As Deputy Secretary-General of ITU said recently that nearly **half the world's population might not have access to health services** they need, but **90% have access to a 3G connection, showing the potential for digital health**.
- By **scaling up existing initiatives, collaborating across stakeholders, and fostering innovation**, India can leverage digital health to achieve its goal of universal healthcare and ensure better health outcomes for all.

ARTICLE 142 OF THE CONSTITUTION

Context:

- The Supreme Court recently **quashed the result of the January 30 Chandigarh Mayor election** after finding that the presiding officer had deliberately invalidated eight ballots.

About

- The court used its power under **Article 142** of the Constitution to do **“complete justice”** and **protect the sanctity of electoral democracy**.
- **Article 142 of the Constitution:** Enforcement of decrees and orders of Supreme Court and orders as to discovery, etc

- ♦ Article 142 of the Indian Constitution allows the Court to pass any necessary decree or order to do **“complete justice” in any cause or matter pending before it**.
- ♦ It empowers the Supreme Court with a unique and vast power known as **“suo moto jurisdiction.”**

Key Features

- **Discretionary Power:** The Court has the sole discretion to invoke Article 142, based on its understanding of “complete justice” in a particular case.
- **Wide Scope:** It applies to any case, irrespective of the subject matter or legal provisions involved.
- **Binding Order:** Any decree or order passed under Article 142 is enforceable throughout India.

Significance

- **Ensuring Justice Beyond Law:** Article 142 empowers the Court to address situations where existing laws and procedures lack adequate remedies.
- **Promoting Social Justice:** The Court has used Article 142 to address issues like prison reforms, environmental protection, and the rights of marginalized communities.
 - ♦ Landmark judgments like the **Vishaka Guidelines and the right to education** involved its invocation.
- **Flexibility and Adaptability:** Unlike rigid laws, the Court can tailor its orders under Article 142 to specific circumstances, enabling dynamic responses to evolving situations.
- **Deterrence and Enforcement:** The Court's ability to take suo moto action can deter potential violations of fundamental rights and act as a powerful enforcement mechanism for upholding existing laws.

Landmark Judgements

- **Sheela Barse vs. Maharashtra (1983):** Addressing **prison conditions** and lack of basic amenities, the Court laid down minimum standards for prison reforms, emphasizing the humane treatment of prisoners.
- **Olga Tellis vs. Bombay Municipal Corporation (1985):** The Court recognized the **right to shelter** as a part of the right to life under

Article 21, ordering the rehabilitation of slum dwellers facing eviction, marking a shift towards protecting informal settlements.

- **M.C. Mehta vs. Union of India (1987):** In this landmark case concerning environmental pollution, the Court invoked Article 142 to issue the “polluter pays” principle, holding industries liable for environmental damage.
- **Bhopal gas tragedy case (‘Union Carbide Corporation vs Union of India’), 1991:** The SC ordered UCC to pay \$470 million in compensation for the victims of the tragedy.
- **Vishaka Guidelines on Sexual Harassment (1997):** In the absence of specific legislation on sexual harassment at workplaces, the Court issued these guidelines outlining a framework for prevention, prohibition, and redressal of sexual harassment, setting a crucial precedent.
- **Right to Education (2002):** In response to widespread illiteracy and lack of access to education, the Court declared the right to free and compulsory education for children between 6 and 14 years a fundamental right under Article 21, impacting millions of children.
- **Irretrievable Breakdown of Marriage (2023):** The Court in cases where there is irretrievable breakdown of marriage then dissolution of marriage is the only solution and this Court can grant a decree of divorce in exercise of its power under Article 142 of the Constitution of India.

Criticism of Article 142

- **Arbitrary:** It is argued that the court has wide discretion, and this allows the possibility of its arbitrary exercise or misuse.
- **Ambiguous:** Defining “complete justice” is a subjective exercise that differs in its interpretation from case to case. Thus, the court has to place checks on itself.
- **Not Accountable:** Another criticism of the powers under Article 142 is that unlike the legislature and the executive, the judiciary cannot be held accountable for its actions.
- **Judicial Overreach:** Critics argue that the broad power granted by Article 142 can lead the Court to overstep its boundaries, intruding into the domain of the legislature and executive.

- **Violates separation of powers doctrine:** The power has been criticised on grounds of the separation of powers doctrine, which says that the judiciary should not venture into areas of lawmaking and that it would invite the possibility of judicial overreach.

Views by the Supreme court on the criticism

- **Prem Chand Garg case (1962):** SC held that an order to do complete justice should be consistent with the fundamental rights guaranteed by the Constitution, and also with the substantive provisions of the relevant statutory laws.
- **‘Supreme Court Bar Association vs Union of India’ 1998:** Powers under Article 142 are **supplementary** and **curative** in nature and could not be used to supplant or override a substantive law and “build a new edifice where none existed earlier”.
- **‘A. Jideranath vs Jubilee Hills Co-op House Building Society’, 2006:** The Supreme Court discussed the scope of the power here, holding that in its exercise no injustice should be caused to a person not party to the case.
- **‘State of Karnataka vs Umadevi’ 2006:** The apex court has **imposed checks on its own power under Article 142.**
 - ♦ It clarified that “complete justice” means **justice according to law and not sympathy**, while holding that it will “not grant a relief which would amount to perpetuating an illegality encroaching into the legislative domain.”

Way Ahead

- The **Drafting Committee of the Indian Constitution** was mindful of the wide-reaching nature of the powers and reserved it **only for exceptional situations**, which the existing law would have failed to anticipate.
- Article 142 represents a **powerful tool** for the Supreme Court to ensure justice and address societal challenges. However, concerns regarding its potential for misuse and overreach needs **judicial restraint.**

MONEY BILL

Context

- In the backdrop of several notable cases, including the **decisions to strike down the electoral**

bond scheme and upholding the **Aadhaar Act in 2018**, the **Supreme Court has been asked to clarify a key question: what constitutes a money Bill?**

- ♦ The issue is now pending consideration before a seven-judge constitution bench of the court.

What is a Money Bill?

- **Article 110 of Constitution of India has Definition of “Money Bills”.** A Bill shall be deemed to be a Money Bill if it **contains only provisions** dealing with all or any of the following matters, namely:--
 - ♦ the **imposition, abolition, remission, alteration or regulation of any tax;**
 - ♦ the regulation of the **borrowing of money or the giving of any guarantee by the Government of India;**
 - ♦ the **custody of the Consolidated Fund or the Contingency Fund of India**, the payment of moneys into or the withdrawal of moneys from any such Fund;
 - ♦ the **appropriation of money** out of the Consolidated Fund of India;
 - ♦ the **declaring of any expenditure to be expenditure charged on the Consolidated Fund of India** or the increasing of the amount of any such expenditure;
 - ♦ the **receipt of money on account of the Consolidated Fund of India or the public account of India** or the custody or issue of such money or the audit of the accounts of the Union or of a State; or
- **A Bill shall not be deemed to be a Money Bill by reason only that it provides for the imposition of fines or other pecuniary penalties**, or for the demand or payment of fees for licences or fees for services rendered, or by reason that it provides for the imposition, abolition, remission, alteration or regulation of any **tax by any local authority or body for local purposes.**
- If any question arises whether a Bill is a Money Bill or not, **the decision of the Speaker of the House of the People thereon shall be final.**
- There shall be endorsed on every Money Bill when it is transmitted to the Council of States

under article 109, and when it is presented to the President for assent under article 111, the certificate of the Speaker of the House of the People signed by him that it is a Money Bill.

Procedure

- Typically, both the Lok Sabha and the Rajya Sabha must pass a Bill before it can become law under Article 107 of the Constitution.
- However, under Article 109, a Bill introduced as a “money Bill” only requires assent from the Lok Sabha and the Rajya Sabha merely has 14 days to consider the Bill and return it with recommendations.
 - ♦ **The Lok Sabha may either accept or reject these recommendations** and enact the money Bill into law.

Arguments for using Money Bills

- **Quick Passage of Crucial Legislation:** In cases where urgent financial measures are needed, using Money Bills can expedite the passage of legislation stuck in the Rajya Sabha due to its lack of a majority for the ruling party.
- **Constitutional Provision:** Article 110 of the Indian Constitution allows the use of Money Bills under specific circumstances, suggesting its intended use in certain scenarios.
- **Legislative Flexibility:** Proponents argue that some flexibility is necessary for the government to function effectively and respond to pressing economic needs.
- **Judicial Scrutiny of Contents:** While the Speaker’s certification is final, courts can still examine the contents of a Money Bill and strike down provisions deemed unrelated to financial matters.

Issues

- **Excessive Interpretation:** Concerns exist about the expansive interpretation of what constitutes a Money Bill, allowing the government to include unrelated provisions through this route.
- **Reuse and misuse:** The issue has assumed significance because Parliament has recently enacted **several ‘Finance Acts’ through the money Bill route.**
 - ♦ E.g. Amendments to laws such as the **PMLA 2002, the Foreign Contributions**

(Regulation) Act, 2010, and the Representation of the People Act, 1951.

- **Undermines bicameralism:** Passing an ordinary Bill as a money Bill, especially for contentious legislation, would limit the role of the Rajya Sabha in lawmaking – a necessary part of ensuring executive accountability.
- **Erosion of Federalism:** Some argue that Money Bills can be used to unfairly benefit certain states by including non-financial provisions, impacting federal principles.

Related Supreme court judgements

- **Aadhar case, 2018:** The Supreme Court upheld the Aadhaar Act, 2016, as constitutional. The main aim of the Act was to provide subsidies and benefits which involved expenditure from the Consolidated Fund of India hence, the Act was validly passed as a money Bill.
 - However, it added that the **Speaker's decision on whether a Bill is a money Bill or not, despite being "final" as per the constitution, can still be subject to judicial review.**
- ♦ But, Justice DY Chandrachud authored a **dissenting opinion in the same case, holding that the Aadhaar act was unconstitutional.** He said, "The passage of the Aadhaar Act as a Money Bill is an **abuse of the constitutional process.**"
 - He pointed out the **use of Aadhaar as identification "for any purpose", goes beyond the scope** of what can be passed through a money Bill under Article 110.
- **Appellate Tribunal Rules case 2019:** The Supreme Court struck down the Appellate Tribunal and Other Authorities Rules of 2017, were introduced through a money Bill in the Finance Act, 2017.
 - ♦ The rules gave the **central government additional control over the service conditions** (appointment, tenure, and eligibility among others) of tribunal members.
 - ♦ Further, the court observed that the five-judge bench in the Aadhaar case had **not detailed the scope of what constitutes a money Bill.** As they were a bench of the same size, the court referred the question to a

larger seven-judge bench, which is still pending in the court.

- **Electoral bonds scheme case, 2024:** The court in February 2024 struck down the amendments to various statutes through the Finance Act, 2017, which facilitated the introduction of the central government's electoral bond scheme in 2018.
 - ♦ Though these amendments and the scheme were struck down, the court noted that **the challenge to the passing of the Finance Act, 2017, as a money Bill is pending before the seven-judge bench.**

Way Ahead

- The use of Money Bills in India presents complex issues with valid arguments on both sides. **Finding a balance between ensuring effective governance and upholding parliamentary checks and balances** remains a crucial challenge.
- **Depending on how the seven-judge bench decides the money Bill issue,** it may open the door to renewed challenges against the PMLA and the Aadhaar Act.

T N GODAVARMAN CASE AND DEFINITION OF FOREST

Context:

- Recently, the Supreme Court of India directed governments to follow '**broad' definition of forests.**

The Forest (Conservation) Act, 1980

- It was enacted to ensure the conservation of forests and their resources.
- The term '**forest land**' mentioned in **Section 2 of the Act** refers to **reserved forest, protected forest, or any area recorded as forest** in the government records.
- Lands notified under **Section 4 of the Indian Forest Act** also come within the purview of the Act.
- The provisions of the **Forest (Conservation) Act, 1980** extend to all areas recorded as forest in government records and the areas which may be defined as forest as per its '**dictionary meaning**' **irrespective of ownership.**

T.N. Godavarman Thirumalpad vs Union of India (1996)

- The Supreme Court of India, in *TN Godavarman Thirumalpad vs Union of India Case*, observed that the **'forest'** has to be understood in terms of its *dictionary meaning*.
 - ♦ It defined 'forest' to include **any piece of land** that resembles the dictionary meaning of forest **for the purpose of the Forest (Conservation) Act, 1980**.
- It ruled that the **Forest (Conservation) Act** applies to all land parcels that were either recorded as 'forest', or which **resembled the dictionary meaning** of forest.
 - ♦ This definition was **further clarified in an interim order** passed by the Supreme Court.
- It covers *all statutorily recognized forests, whether designated as reserved, protected, or otherwise*.
- It is intended to ensure that the protection and conservation of forests are prioritised in India.

Definition of Forest under the State of Forest Report

- Forest is defined by any country depending upon the capacities and capabilities of the country, structurally on the basis of:
 - ♦ **Crown Cover Percentage:** 10 to 30% (**10% for India**);
 - ♦ **Minimum Area of Stand:** Area between 0.05 and 1 hectare (India 1.0 hectare); and
 - ♦ **Minimum Height of Trees:** Potential to reach a minimum height at maturity in situ of 2 to 5 metres (**2 metres for India**).
- The forest cover is **defined as** 'all land, more than one hectare in area, with a tree canopy density of more than 10% irrespective of ownership and legal status. Such land may not necessarily be a recorded forest area. It also includes orchards, bamboo and palm'.
- India's definition of forest is **very well accepted by the UNFCCC** and Food and Agriculture Organization (**FAO**) for their reporting/communications.

Forest Conservation (Amendment) Act of 2023 and related issues

- **Narrowing the Definition of Forest:** It narrowed the definition of forest **by inserting the Section 1A** in the Act, and **contradicts the Supreme Court's 1996 order**, potentially jeopardising legal safeguards for one-fifth to one-fourth of India's forests.
 - ♦ According to it, a land has to be **either notified as a forest** or specifically recorded as a forest in a government record to qualify as a 'forest'.
- **Infrastructure Vs Environment:** It **exempts linear projects** near borders, supporting infrastructure development crucial for **national security**.
- **Private Players and Economic Exploitation:** It encourages private entities to undertake afforestation projects, contributing to environmental conservation, and **facilitates economic exploitation** by removing certain forest areas from legal jurisdiction.
- **Limited Public Discourse:** It has emerged with **limited public discourse**, raising concerns about its ramifications for forests and indigenous communities.

Conclusion

- The issue of 'definition of forest' in India has the implications on forest conservation, rights of indigenous communities, and economic development.
- It is crucial that any changes to the definition of 'forest' are made with careful consideration of their potential impacts on India's rich biodiversity, the livelihoods of forest-dependent communities, and the country's commitments to climate change mitigation.

Source: IE

EMPLOYABILITY OF WOMEN IN INDIA

Context:

- Recently, the Supreme Court of India said that termination of a woman's employment due to marriage is gender discrimination, and unconstitutional.

Status of Working Women in India:

- As per the **Union Budget 2022**, the overall workforce participation rate in India is 20.3%, of which 18.2% is in Urban India.

- ♦ Women's employability stands at 51.44% for 2022, compared to 41.25% in 2021.
- **Periodic Labour Force Survey Report 2022-23:** It shows that the Female Labour Force Participation Rate in the country has improved significantly by 4.2% points to 37.0% in 2023, as per the '**usual status**' concept of measuring labour force participation.
- The presence of girls/women in **Science, Technology, Engineering and Mathematics (STEM) is 43%**, which is one of highest in the world.
 - ♦ India is presently one of the only 15 countries in the world with a woman Head of State.
- **National Family Health Survey 5 (NFHS 5):** It says 88.7% women participate in major household decisions today as against 84% five years ago.
- **Public Sphere:** In the 2019 Lok Sabha election for the first time in the country since independence, 81 women were elected as Members of Lok Sabha.
 - ♦ There are over 1.45 million or 46% women elected representatives in Panchayati Raj Institutions (against mandatory representation of 33%).

Challenges faced by the working women:

- **Work-Life Balance:** Indian working women often struggle to balance their professional responsibilities with their roles at home.
- **Workplace Complications:** Women face complications in the workplace, including discrimination, bias, and sometimes even harassment.
- **Gender Bias:** There is a prevalent assumption that women are only suitable for specific tasks, leading to discrimination among those who work with them.
- **Pay Disparity:** Despite laws declaring equality in remuneration, it is not always followed.
 - ♦ The ingrained belief that women are incapable of doing difficult work and are less effective than men impacts the payment of differential salaries and compensation for the same job.
- **Security Issues:** Safety and security are major concerns for working women, especially those who work at night or in remote locations.

Initiatives to tackle the issue:

- **Flexible Working Hours:** Organisations are increasingly offering flexible working hours to accommodate the needs of their female employees.
- **Equal Women Representation:** There is a growing emphasis on ensuring equal representation of women in planning and decision-making roles within organisations.
- **Gender Equality Initiatives:** Organisations are driving transformative change for gender equality, which includes initiatives like leadership development programs, increased female recruitments, and transparent communication.
- **Support Services:** Support services such as counselling sessions are being provided to help women cope with workplace challenges.
- **Safety and Security Measures:** Organisations are implementing proper safety and security measures to ensure a safe working environment for women.
- **Effective Child Care Policies:** Organisations are introducing effective child care policies to support working mothers.
- **Appropriate Grievance Redressal Mechanisms:** Appropriate grievance redressal mechanisms are being put in place at workplaces to address issues faced by women.

Constitutional Provisions related to Women:

- **Article 14:** Equality before law for women.
- **Article 15 (1):** The State not to discriminate against any citizen on grounds only of religion, race, caste, sex, place of birth or any of them.
- **Article 15 (3):** The State to make any special provision in favour of women and children.
- **Article 16:** Equality of opportunity for all citizens in matters relating to employment or appointment to any office under the State.
- **Article 39(a):** The State to direct its policy towards securing for men and women equally the right to an adequate means of livelihood.
- **Article 39(d):** Equal pay for equal work for both men and women.
- **Article 42:** The State to make provision for securing just and humane conditions of work and for **maternity relief**.

- **Article 46:** The State to promote with special care the educational and economic interests of the weaker sections of the people and to protect them from social injustice and all forms of exploitation.
- **Article 51(A) (e):** To promote harmony and the spirit of common brotherhood amongst all the people of India and to renounce practices derogatory to the dignity of women.
- **Article 243 D(3), Article 243 D (4), Article 243 T (3), and Article 243 T (4)** are related to reservation of seats for the women belonging to Scheduled Castes; and the Scheduled Tribes.

Related Supreme Court's Observations:

- **Marriage, Employment, and Gender Discrimination:** The Supreme Court has stated that rules that edge out women from employment for getting married are 'coarse', unconstitutional.
 - ♦ It observed that terminating employment because a woman has got married is a coarse case of gender discrimination and inequality.
 - ♦ Acceptance of such patriarchal rule **undermines human dignity, right to non-discrimination and fair treatment.**
- **Safe Working Environment:** The Supreme Court recognized that under **Article 14 (2), 19 (1) (g), and 21** of the Constitution, the fundamental rights also include the **right to a safe working environment.**
- **Sexual Harassment:** The Apex court commissioned the **Vishaka Guidelines (1997)** that defined **sexual harassment** and put the onus on the employers to provide a safe working environment for women.

Statutory and Legal Provisions

- **The Prohibition of Sexual Harassment of Women at Workplace Act, 2013:** It provides a definition of sexual harassment and mandates employers to develop a complaint mechanism.
 - ♦ It also outlines procedural requirements for employers, including the establishment of an **Internal Complaints Committee (ICC)**, conducting orientation and awareness programs, and displaying details of the penal consequences of indulging in acts of sexual harassment.

- **The Maternity Benefit Act, 1961:** It regulates the employment of women in certain establishments for a certain period before and after childbirth and provides for maternity and other benefits.
- **The Factories Act, 1948:** It mandates that any factory employing 30 or more women workers must provide creche facilities for the use of children under the age of 6 years.
 - ♦ It also stipulates that women cannot be made to lift more than the prescribed weight and cannot be made to clean or oil any moving machine.
- **The Equal Remuneration Act, 1976:** It provides for the payment of equal remuneration to men and women workers for the same work or work of a similar nature.
- **Minimum Wages Act, 1948:** It sets the minimum wages that must be paid to skilled and unskilled labourers.

Way Forward: What more to be done?

- **Work from Home:** A survey conducted by UNICEF's public-private youth platform **YuWaah and U-Report** revealed that 55% of women prefer to work from home so they can manage household chores.
 - ♦ It suggests that flexible work arrangements could be beneficial.
- **Access to Information and Opportunities:** The same survey found that 52% of respondents believe that access to information and opportunities or support from families are key factors that influence young women's decision to develop job-ready skills and join the workforce.
- **Family Influence:** The survey also found that 56% of respondents believed that parents/family or partners are important actors in choosing aspirations and career options.
- **Education and Unemployment:** A study by the Indian Institute of Management (IIM), Lucknow, found a rise in the unemployment rate with education levels.
 - ♦ It suggests that more job opportunities need to be created for educated women.
- **Labour-Intensive Manufacturing Sector:** The researchers suggested that a conscious effort to identify and promote the labour-intensive

manufacturing sector will help in accomplishing inclusive growth.

PRIVATE INVESTMENTS IN INDIA'S NUCLEAR ENERGY SECTOR

Context

- India is planning to invite private companies to invest approximately **\$26 billion in its nuclear energy sector**.

About

- The government plans to build **11,000 megawatts (MW)** of new nuclear power generation capacity by **2040**.
- Under the funding plan, the private companies will make the investments in the nuclear plants, acquire land, water and undertake construction in areas outside the reactor complex of the plants.
- However, the rights to build and run the stations and their fuel management will rest with the Nuclear Power Corporation of India (NPCIL).
- The plan will not require any amendment to **India's Atomic Energy Act of 1962** but will need a final go-ahead from the Department of Atomic Energy.
- Though, Indian law bars private companies** from setting up nuclear power plants but allows them to supply components, equipment and sign construction contracts for work outside of the reactors.

Benefits of Private Investment

- Achieve the energy target:** The proposed funding is crucial for India to achieve its target of having **50%** of its installed electric generation capacity sourced from non-fossil fuels by **2030**, compared to the current 42%.
- Increased Efficiency:** Private companies bring in more efficient management practices, technological advancements, and innovation to the sector.
- Innovation and Research:** Private investment incentivizes the development of advanced reactor designs, fuel cycles, safety systems, and waste management solutions, leading to long-term sustainability and competitiveness in the sector.

- Financial Resources:** Private investment provides additional financial resources for the development and expansion of nuclear infrastructure.

What is Nuclear Energy?

- Nuclear energy** is the energy released during nuclear reactions, either through fission (splitting of atomic nuclei) or fusion (merging of atomic nuclei).
- In nuclear fission**, heavy atomic nuclei, such as those of uranium or plutonium, are split into lighter nuclei, releasing a large amount of energy.
- This process is utilized in nuclear power plants to generate electricity.

India's Nuclear Programme

- Nuclear Energy is a non-carbon-emitting energy source that contributes less than **2%** of India's total electricity generation.
- NPCIL owns and operates India's current fleet of nuclear power plants, with a **capacity of 7,500 MW**, and has committed investments for another 1,300 MW.
- India imports uranium fuel for nuclear plants from Russia, Kazakhstan, Uzbekistan, France and Canada under bilateral agreements.

NUCLEAR POWER PLANTS UNDER OPERATION IN INDIA



Advantages of Nuclear Energy

- Energy Security:** Nuclear energy with its high power output can solve the energy crisis that the world is facing today. The fuel to power output ratio for nuclear energy is incredibly high. A relatively small amount of uranium can be used to fuel a 1000 Megawatts electric plant, thus providing enough electricity to power a city of about half a million people.

- **Clean energy:** Nuclear power plants have a low greenhouse gas footprint. The World Nuclear Association found that the average emissions for nuclear power are 29 tonnes of CO₂ per gigawatt-hour (GWh) of energy produced.
 - ♦ This compares favorably with solar (85 tonnes per GWh), wind (26 tonnes per GWh) and fossil fuels like lignite (1,054 tonnes per GWh).
- **Low Operating Costs:** Nuclear power produces very inexpensive electricity and is cheaper than gas, coal, or any other fossil fuel plants.

Disadvantages of Nuclear Energy

- **Risky source of energy:** The risks of nuclear power are ultimately uncontrollable. The Chernobyl disaster of 1986 and Fukushima disaster in Japan in 2011 have already shown the dangers of nuclear power.
- **Not really renewable:** Uranium, the nuclear fuel that is used to produce nuclear energy, is limited and cannot be produced again and again on demand.
- **Radioactive Waste Disposal:** A nuclear power plant creates 20 metric tons of nuclear fuel per year, and with that comes a lot of nuclear waste. The greater part of this waste transmits radiation and high temperature, causing damage to living things in and around the plants.

- ♦ It found an average of over a quarter of a million plastic particles per litre of bottled water, 90% of which were nanoplastics.

Microplastics:

- These are tiny fragments of plastic that are less than **5 millimetres** in diameter. They originate from various sources, including **cosmetics, city dust, road markings, and engineered plastic pellets**.
- However, the majority of the primary microplastics in the world's oceans come from the laundry of textiles (35%) and the abrasion of tires while driving (28%).

Nanoplastics:

- These are even smaller, with dimensions **ranging from 1 nanometer to 1 micrometre**.
- They are believed to be **more toxic than larger microplastics** as they can more easily enter the human body.

Prevalence and Impact:

- Microplastics and nanoplastics have spread to every corner of the planet, from the deepest parts of the ocean to the heights of Mount Everest.
- They have infiltrated the guts of seabirds, agricultural crops, human blood, and drinking water.

NEWS IN SHORT

PLASTIC PARTICLES IN BOTTLED WATER

Context:

- A study has found that a litre of bottled water can contain more than one lakh particles of micro and nano plastics.

About the Findings:

- The Scientists used a custom **Hyperspectral Stimulated Raman Scattering (SRS)** imaging platform to capture multiple images of an object's molecules at different wavelengths.
- **Findings:**
 - ♦ The investigation revealed the presence of around 2.4 lakh micro and nano plastic particles per litre of bottled water.

Threat to Human Health:

- The long-term health effects of consuming micro- and nanoplastics are still under investigation.
- However, it is known that nanoplastics are believed to be more toxic than larger microplastics as they can more easily enter the human body.

9TH EDITION OF RAISINA DIALOGUE

Context

- Prime Minister Modi will inaugurate the **9th edition of Raisina Dialogue in New Delhi**.

About

- The **three-day** Raisina Dialogue will witness the participation of representatives from over 100 countries including Ministers, Technology Leaders, Academics, Scholars on Strategic Affairs etc.

- Prime Minister of Greece, **Kyriakos Mitsotakis**, will join the inaugural session as the Chief Guest.
- **The theme** of the 2024 edition is “**Chaturanga: Conflict, Contest, Cooperate, Create**”.
- Over the event, attendees will engage in discussions on **six thematic pillars**:
 - ♦ Tech Frontiers: Regulations & Realities;
 - ♦ Peace with the Planet: Invest & Innovate;
 - ♦ War & Peace: Armouries & Asymmetries;
 - ♦ Decolonising Multilateralism: Institutions & Inclusion;
 - ♦ The Post 2030 Agenda: People & Progress; and
 - ♦ Defending Democracy: Society & Sovereignty.

Raisina Dialogue

- The Raisina Dialogue is India’s premier conference on geopolitics and geoeconomics committed to addressing the most challenging issues facing the global community.
 - ♦ **The first session** was held in **2016**.
- It is hosted by the Delhi-based **Observer Research Foundation**, in collaboration with the **External affairs ministry** of India.

MALTA JOINS THE INTERNATIONAL SOLAR ALLIANCE (ISA)

Context:

- Recently, Malta became the **119th country** to join the International Solar Alliance (ISA).

About the International Solar Alliance:

- It was launched by **India and France** together at the U.N. Climate Change Conference in Paris in 2015, to address energy requirements through a common approach.
- It represents a significant step towards a sustainable future, harnessing the power of the sun for a brighter tomorrow.

Formation and Purpose:

- The ISA was conceived as a coalition of solar resource-rich countries, most of them **located between the Tropics of Cancer and Capricorn**.
- The primary objective of the alliance is to work for the efficient consumption of solar energy to **reduce dependence on fossil fuels**.

- The ISA has set a **target of 1 TW of solar energy by 2030**, which would require \$1 trillion to achieve.

Membership:

- The ISA is open to 121 prospective member countries.
- So far, however, only 56 countries have signed the ISA Framework Agreement.

India’s Role:

- Apart from being a founding-member, India plays a significant role in the alliance in terms of being a host as well as a major contributor to the achievement of the target.
- The ISA is the **first international body** that will have a **secretariat in India**.
- India, with a target to produce 100 GW of solar energy by 2022, would account for a **tenth of ISA’s goal**.

Recent Developments:

- The UN General Assembly conferred Observer Status to the ISA.
 - ♦ It is expected to provide for a well-defined cooperation between the Alliance and the United Nations that would benefit global energy growth and development.
- The ISA recently approved the ‘**Solar Facility**’, a **payment guarantee mechanism** expected to stimulate investments into solar projects.

LAB-GROWN DIAMONDS

In News

- Lab-grown diamond exports from India tripled in value between 2019 and 2022.

Lab-grown diamonds

- LGDs are manufactured in laboratories, as opposed to naturally-occurring diamonds.
- But the chemical composition and other physical and optical properties of the two are the same.
- In **Union Budget 2023-24**, a five-year research grant for one of the Indian Institutes of Technology (IITs) was announced to encourage the indigenous production of **lab-grown diamonds (LGD) machinery, seeds and recipe**.

Process

- LGDs are mostly manufactured through two processes –
 - ♦ **High pressure, high temperature (HPHT) method:** In the HPHT method, the seed, along with pure graphite carbon, is exposed to temperatures around 1,500 degrees Celsius and extremely high pressure.
 - ♦ **Chemical Vapour Deposition (CVD) method :** In the CVD method, the seed is heated to around 800 degrees Celsius inside a sealed chamber filled with a carbon-rich gas.
 - ♦ The gas sticks to the seed, gradually building the diamond.

Applications

- Besides the jewellery industry, lab-grown diamonds are also used in computer chips, satellites, 5G networks as they can be used in extreme environments as it has potential to operate at higher speeds while using less power than the silicon-based chips.

Importance

- The lab-grown alternatives are more environmentally friendly, as the environmental impact of mining is negated.

- The production cost is lesser making them more affordable than their counterparts.
- Though there is an initial cost in setting up the laboratory, and equipment, the production cost is significantly less than the real diamonds.

CHEVALIER DE LA LEGION D' HONNEUR

In News

- Shashi Tharoor has received “Chevalier de la Legion d’Honneur” award

Chevalier de la Legion d’Honneur

- The Chevalier de la Legion d’Honneur (Knight of the Legion of Honour) was established by Napoleon Bonaparte in 1802.
- It is France’s highest civilian award that acknowledges extraordinary accomplishments and services rendered to France.
- It covers contributions in arts, literature, science and public service, among others.
- Durga Charan Rakshit was the first Indian to receive the honour.

