CURRENT AFFAIRS WEEKLY

WEEK: 2
JULY
2021

MAINS

GS-I India's increasing population and associated issues

GS-II Not-for-Profit Hospital

GS-II One Nation One Ration Card

GS-II One year of PMFME Scheme

GS-IV Ethics and Governance of Artificial Intelligence for Health

PRELIMS

GEOGRAPHY
- Glacial Lake Atlas of Ganga River Basin Released

POLITY & GOVERNANCE
- DMCA notices for protection of intellectual property online
- "Enforcing Contracts Portal" launched by the Justice Department
- 'Itat e-dwar', an e-filing portal of Income Tax Appellate Tribunal launched

ENVIRONMENT
- Delimitation in the J&K
- Detailed Project reports of LIDAR survey of forest areas released
- NTPC Declares its Energy Compact Goals towards Sustainability

SCIENCE & TECHNOLOGY
- Agni P Ballistic Missile successfully tested
- Development of the Electrically configured Nano-Channels
- India ranked under Top 10 in Global Cybersecurity Index 2020 Rankings

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— Disclaimer —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS ANALYST

WEEK- 2 (JULY, 2021)

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SECTION: A

(MAINS)

CURRENT AFFAIRS

INDIA'S INCREASING POPULATION AND ASSOCIATED ISSUES

CONTEXT

In the recent past, States like Uttar Pradesh and Assam, and Union Territories like Lakshadweep, have proposed to implement a two-child norm as a pre-condition for getting government jobs or to get nominated or elected to Panchayat elections. This brings our focus to population and associated issues.

⊙ BACKGROUND

- In recent years, a section of the political class has been stridently demanding a "population control" law.
- The argument offered in its defence by its votaries is simple: India is experiencing a population explosion.
- This imposes growing strains on economic resources and contributes to fraying the social contract that holds our society together.

⊙ ANALYSIS

Facts on Indian Population

- India is second most populous country with over 1.35 billion people.
- Approximately 17.85% of the world's population are Indians, which means 1 in every 6 people on Earth live in India.
- India's population is expected to grow by 25%, with reference to 2011, to 1.52 billion by 2036.
- India's population growth rate is expected to decline to its lowest since the Independence in the 2011-2021 decade, with a decadal growth rate of 12.5%.
- According to these projections, India will overtake China as the world's most populous country around 2031.

Cause of Overpopulation

- **The Decline in the Death Rate**
  - At the root of overpopulation is the difference between the overall birth rate and death rate in populations.
  - If the number of children born each year equals the number of adults that die, then the population will stabilize.
- **Agricultural Advancements**
  - Agricultural advancements in the 20th century have allowed humans to increase food production using fertilizers, herbicides, and pesticides and yields further.
  - This allowed humans with more access to food that leads to subsequent population explosions.
- **Better Medical Facilities**
  - Illnesses that had claimed thousands of lives until now were cured because of the invention of vaccines. Combining the increase in food supply with fewer means of mortality tipped the balance and became the starting point of overpopulation.
- **More Hands to Overcome Poverty**
  - Poverty is considered as the leading cause of overpopulation. In the absence of educational resources, coupled with high death rates, which resulted in higher birth rates, that is why impoverished areas are seeing large booms in population.
  - Families that have been through poverty, natural disasters, or are simply in need of more hands to work are a major factor for overpopulation.
- **Child Labour**
  - The children being seen as a source of income by impoverished families begin work too young and also lose the educational opportunities reflected, particularly when it comes to birth control.
- **Technological Advancement in Fertility Treatment**
  - Today there are effective medicines that can increase the chance of conception and lead to a rise in the birth rate. Moreover, due to modern techniques, pregnancies today are far safer.
- **Immigration**
  - Many people prefer to move to developed countries like the US, UK, Canada, and Australia, where the best facilities are available in terms of medical, education, security, and employment. The result is that those people settle over there, eventually making those places overcrowded.
- **Lack of Family Planning**
  - Most developing nations have a large number of people who are illiterate, live below the poverty line, and have little or no knowledge

about family planning. Besides, getting their children married at an early age increases the chances of producing more kids.

- **Poor Contraceptives Use**
  - A study by the World Health Organization (WHO) shows that women aged between 16 and 49used at least one form of contraceptive are 43% in underdeveloped countries, which leads to higher birth rates.

Effects of Overpopulation

- **Depletion of Natural Resources**
  - Most of the environmental damage seen in the last fifty-odd years is because of the growing number of people on the planet. They include cutting down forests, hunting wildlife in a reckless manner, causing pollution, and creating a host of other problems.
- **Degradation of Environment**
  - With the overuse of coal, oil, and natural gas, it has started producing some serious effects on our environment. Besides, the exponential rise in the number of vehicles and industries has badly affected the quality of air.
  - The rise in the amount of CO2 emissions leads to global warming. Melting of polar ice caps, changing climate patterns, rise in sea levels are a few of the consequences that we might have to face due to environmental pollution.
- **Conflicts and Wars**
  - Overpopulation in developing countries puts a major strain on the resources it should be utilizing for development. Conflicts over water are becoming a source of tension between countries, which could result in wars. It causes more diseases to spread and makes them harder to control.
- **Rise in Unemployment**
  - When a country becomes overpopulated, it gives rise to unemployment as there are fewer jobs to support a large number of people. The rise in unemployment gives rise to crime, such as theft, as people want to feed their families and provide them basic amenities of life.
- **High Cost of Living**
  - As the difference between demand and supply continues to expand due to overpopulation, it raises the prices of various essential commodities, including food, shelter, and healthcare.
- **Pandemics and Epidemics**
  - Poverty is linked to many environmental and social reasons, including overcrowded and unhygienic living conditions, malnutrition and inaccessible, inadequate, or non-existent health care, for which the poor are more likely to be exposed to infectious diseases. Further, high densities of population increase the chance of the emergence of new pandemics and epidemics.
- **Malnutrition, Starvation and Famine**
  - When the availability of resources is scarce, starvation, malnutrition, along with ill health and diseases caused by diet-deficiency such as rickets become more likely.
- **Water Shortage**
  - Roughly 1% of the world's water is fresh and accessible. Overpopulation is a major issue that creates immense pressure on the world's freshwater supplies.
- **Extinction**
  - The impact of overpopulation on the world's wildlife is severe. As demand for land grows, the destruction of natural habitats, such as forests, becomes common.

SRS Statistical Report, 2018

- The Crude Birth Rate (CBR) at the National level during 2018 stands at 20.0 exhibiting a decline of 0.2 points over 2017.
- The Infant Mortality Rate (IMR) has also registered 1-point decline to 32 in 2018 from 33 in 2017at the National level.
- Sex Ratio at Birth for the country has gone up by 3 points to 899 in 2016-18 from 896 in 2015-2017.
- Total Fertility Rate (TFR) for the country is stable at 2.2 in 2018 and 2017.

⊙ CONCLUSION

The long-term objective of achieving a stable population by 2045, at a level consistent with the requirements of sustainable economic growth, social development, and environment protection will require considerable effort and efficient implementation of the National Population Policy.

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NOT-FOR-PROFIT HOSPITAL

CONTEXT

NITI Aayog recently released a comprehensive study on the not-for-profit hospital model in the country, in a step towards closing the information gap on such institutions and facilitating robust policymaking in this area.

⦿ BACKGROUND

- India's policies and programmes are aimed at achieving Universal Health Coverage by 2030.
- NITI Aayog has been extensively studying the private-sector healthcare-delivery landscape in the country.
- While there exists adequate information on for-profit healthcare providers and institutions, there is a dearth of reliable and structured information on their not-for-profit counterparts.
- The not-for-profit hospitals currently account for only a miniscule share of hospitalization cases.

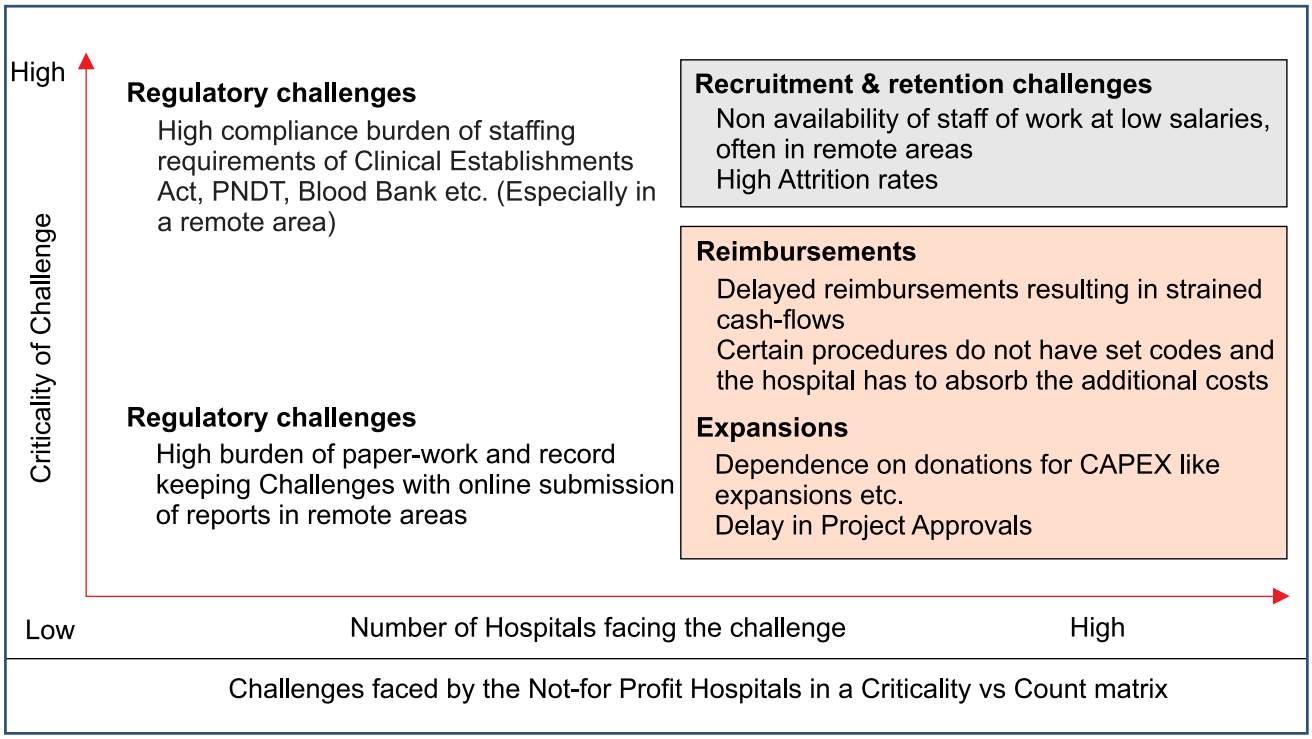
⦿ ANALYSIS

What are different types of Not-for-profit hospitals?

- **Faith-based Hospitals**
  - These hospitals work on the premise that selfless service to the society is done as service to God.
  - A noteworthy feature of all major faiths has been their emphasis on charity and sharing wealth with others, especially the poor.
  - Throughout the ancient and medieval periods, voluntary activity found its natural expression through religions institutions.
- **Community-based Hospitals**
  - These hospitals are not necessarily influenced by any faith but operate on the premise that selfless service to the underprivileged will result in all-round social reform.
  - Highly motivated doctors, or a team of likeminded doctors, desiring to give back to society, have founded many such hospitals, often in the same community where they were born/raised.
- **Cooperative Hospitals**
  - These hospitals are set up on the premise of self-sufficiency in healthcare by self-participation.
  - They believe that quality healthcare at an affordable cost (commensurate to the locality of the hospital) is a right of all citizens and can result in the overall benefit of both the hospital and its patients.
  - Individual doctors or a likeminded team of doctors convinced of the same philosophy, have founded many such hospitals.
- **Private Trust Hospitals**
  - These hospitals operate with the premise of no profit and no loss and are primarily located in Tier 1/ Tier 2 cities.
  - Famous businessmen/ philanthropists/ politicians, have founded many such hospitals in response to social causes based on individually observed needs.

Challenges faced by the Not-for-profit Hospitals

- **Recruitment and retention of doctors & staff**
  - The lower salaries offered than the for-profit hospitals form a hindrance, especially, for recruiting specialist and super-specialist consultants.
  - They lack many basic facilities for living in rural areas, not many doctors and staff would join them or continue for a long time.
- **Reimbursements for treatment of Government health scheme beneficiaries**
  - Perennially delayed reimbursements and long-pending amounts, causing strain in their cash flows, and in turn, burdening their operations.
  - There are added procedures due to perioperative complications, and there are no set codes, thus, the hospitals must absorb the additional cost
- **Infrastructure and equipment expansions**
  - instances of delay in expansion project approvals from regulatory bodies
  - One Faith-based Hospital reported an overall time frame of five years for the regulatory permission to operationalize a newly constructed additional wing.
- **Regulatory challenges**
  - high compliance burden of staffing requirements of the Regulations for running a blood bank, Clinical Establishments Act, PNDT Act, and Quality standards
  - High burden of paperwork and record keeping in addition to the challenges with periodic online submission of reports for certain regulatory compliances.



Challenges faced by the Not-for Profit Hospitals in a Criticality vs Count matrix

Proposed Policy Interventions to Promote the Not-for-Profit Hospital Sector

	Identification and Promotion	Leveraging expertise	Human Resources	Financial
Short term	Develop criteria to identify these Hospitals Develop Mechanisms to rank these Hospitals on a performance Index Create a national level portal/ directory of these Hospitals	Representatives of high-performing not-for-profit Hospitals across different geographical locations can be invited to share experiences in relevant policy making committees	Posting of Government Medical College students for their mandatory internships in these hospitals (To be explored in accordance with Medical Education laws)	100% exemption for donations (Section 80G) (Currently 50%) Extension of a lowcost credit line (Esp. Working Capital Loans) Income Tax exemption for membership fees paid at Cooperative Trust Hospitals Single window clearance for Govt. reimbursements
Long term	Promote the top hospitals for facilitating philanthropy, investments and patient flows	Involving high performing Hospitals in PPP models for managing PHCs, operations of Government Facilities, PSU Hospitals	Develop a mechanism to incentivize super specialists to work in remote areas. Revisiting of the compliance requirements of regulations like CEA, PNDT, Blood Bank	Grant in Aid scheme (Similar to Gujarat Model) Timely allocation of unencumbered land

⊙ CONCLUSION

These hospitals have managed to create a perception of goodwill in the country not only through selfless healthcare services with a social cause, but also through various community engagement programs for education, vocational training, hygiene, sanitation, women's empowerment and employment. Hence, the government should focus on development of this sector to reduce the out of pocket expenditure of the country and provide Universal Healthcare.

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ONE NATION ONE RATION CARD

CONTEXT

Calling One Nation One Ration Card "an important citizen-centric reform", the Supreme Court has set a deadline of July 31 for all states to implement the scheme and further noted that "its implementation ensures availability of ration to beneficiaries under National Food Security Act (NFSA) and other welfare schemes.

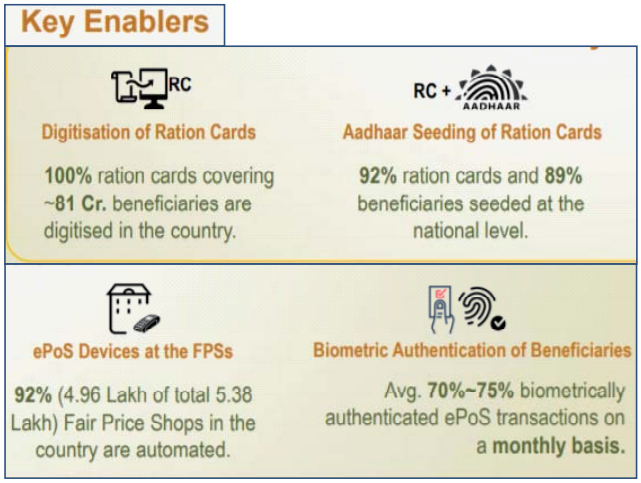
⦿ BACKGROUND

- To sustain the reforms brought in by scheme on 'End to End Computerization of Targeted Public Distribution System (TPDS) Operations' a new scheme was launched namely Integrated Management of Public Distribution System (IM-PDS).
- Keeping in view the physical progress under the ongoing scheme and readiness for implementation of National Portability, it was decided to implement inter-State/National Portability scheme.
- This interoperable scheme under the Public Distribution System is One Nation One Ration Card Scheme.

⦿ ANALYSIS

What is ONORC Scheme?

- It aims to provide an option to all eligible ration card holders/beneficiaries covered under NFSA to access their entitlements from anywhere in the country.
- The distribution of highly subsidized food grains is enabled through nation-wide portability of ration cards through the implementation of IT-driven systems by:



  - installation of ePoS devices at FPSs
  - seeding of Aadhaar number of beneficiaries with their ration cards and
  - operationalisation of biometrically authenticated ePoS transactions in the State/UTs.
- Till Feb' 21 the facility has been enabled in 32 States/UTs covering nearly 69 crore beneficiaries, almost 86% of NFSA population of the country.

Challenges with earlier regime

- **Beneficiaries were confined to particular Fair Price Shops (FPS)**
  - Ration Cards were tagged to a particular FPS
  - Beneficiaries can avail foodgrains from tagged FPS only
  - Dependent on the whims-and-fancies of the FPS dealer
- **Loss of food security due to migration**
  - Migrant beneficiaries lose access to subsidised foodgrains
  - Forced to purchase from open market at inflated prices
  - Very purpose of 'Food Security' under NFSA was not fulfilled
- **Difficulty in getting new Ration Card**
  - Lengthy process to obtain new ration card at new place
  - Requirement of supporting documents and local proofs
  - Prone to introducing duplicity of ration card/ beneficiary

Reason for non implementation in few states/UT

- **Delhi**: yet to operationalize ePoS in fair price shops which is one of the core component of ONORC scheme.
- **West Bengal**: Demanded that beneficiaries of non-NFSA ration cards (issued by state government) should also be included in the scheme.

Benefits of the One Nation One Ration Card

- **Interoperability of ration cards:**
  - Beneficiaries will be able to purchase subsidised food grains in any part of the country if their ration cards are linked to the Aadhaar number.

- **Empowering all migrant beneficiaries:**
  - The scheme has been launched keeping in mind the country's internal migration, as people continue to move to different states in search of job opportunities and better standards of living.
  - One of the key challenges faced by migrant workers in cities at the beginning of the lockdown was lack of food security and access to food grains.
  - The One Nation One Ration Card system will certainly help get our labour force back into the cities.
- **Reducing discrimination:**
  - The scheme will give beneficiaries the option of choosing the concession holder of their choice. If any dealer misbehaves or misallocates, the beneficiary can instantly switch to another FPS shop.
  - The scheme will reduce the practice of black marketing at PDS shops due to installation of ePoS machines
- **Achieving Sustainable Development Goal (SDG):**
  - This will help achieve the target of ending hunger by 2030. Also, it will address the poor. In the 2020 Global Hunger Index (GHI), India ranked 94 out of the 107 countries.

Mera Ration Mobile App

- The government has developed a Mobile App "MERA RATION", to facilitate various ONORC related services among NFSA beneficiaries particularly migrant beneficiaries, FPS dealers and other relevant relevant stakeholders

Challenges in implementation

- Exact data on the mobility of poor households migrating to work, locating intra- and inter-state destinations and sectors employing the workers is challenging, which will affect the allocation of food grains to different states.
- Without the portability of Integrated Child Development Services, Mid-Day Meals, immunisation, health care and other facilities for poor migrant households the aim of nutritional security will remain elusive.
- Since the scheme is based on two important guiding principles: Aadhar and digitalisation of ration cards. Due to poor digital literacy and internet penetration and authentication errors the entitled can remain excluded.
- Unless the government brings in 'divisibility' of the ration card, it might be challenging to keep track of the migration pattern.
- Experiences show that implementation is a demanding process and the deadline seems highly unlikely to be met in a way that it is in practice effective.

CONCLUSION

The poor and vulnerable (who are more mobile today) are in search of better means of subsistence, wages and opportunities beyond their native villages, and require better access to social assistance laws to avail their entitlements. 'One Nation One Ration Card' scheme will ensure food security of the migrant family. Monitoring the entire value chain of the scheme, mainly availability and operations of the PoS systems in PDS stores must be undertaken to control compromises in entitlements.

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ONE YEAR OF PMFME SCHEME

CONTEXT

The Pradhan Mantri Formalisation of Micro food processing Enterprises (PMFME) Scheme to enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry and promote formalization of the sector, marks the completion of its one year.

⊙ BACKGROUND

- The unorganized food processing sector in the country comprises nearly 25 lakh food processing enterprises which are unregistered and informal
- With only 7% of investment in plant & machinery and 3% of outstanding credit, the unorganized enterprises contribute to 74% of employment (a third of which are women), 12% of output and 27% of the value addition in the food processing sector.
- Taking cognizance of the contribution of the unorganized micro food processing enterprises and the challenges that impede their performance, Ministry of Food Processing Industries has launched PM FME Scheme.

⊙ ANALYSIS

What is PM FME Scheme?

- Launched in June 2020, the PM FME Scheme is currently being implemented in 35 States and Union Territories.
- Under the One District One Product (ODOP) component of the PM FME Scheme, the Ministry of Food Processing Industry approved ODOP for 707 industries for 35 States and UTs.

Objectives of the Scheme

- Capacity building of entrepreneurs through technical knowledge, skill training and hand holding support services
- Increased access to credit to existing micro food processing entrepreneurs for technology up-gradation
- Support to Farmer Producer Organizations (FPOs), Self Help Groups (SHGs), Producers Cooperatives & Cooperative Societies along their entire value chain to enable microenterprises to avail common services
- Support for transition of existing enterprises into formal framework for registration under regulatory framework and compliance
- Integration with organized supply chain by strengthening branding & marketing

One District One Product

- The Scheme adopts One District One Product (ODOP) approach to reap the benefit of scale in terms of procurement of inputs, availing common services and marketing of products.
- ODOP for the scheme will provide the framework for value chain development and alignment of support infrastructure.
- There may be more than one cluster of ODOP product in one district. There may be cluster of ODOP product consisting of more than one adjacent district in a State.
- The States would identify the food product for a district, keeping in perspective the focus of the scheme on perishables
- Certain other traditional and innovative products including waste to wealth products could be supported under the Scheme

Seed Capital

- Seed capital @ Rs40,000/- per member of SHG for working capital and purchase of small tools would be provided under the scheme
- Priority would be given for SHGs involved in ODOP produce in giving seed capital

Milestone Achieved in 1 year

- The GIS ODOP digital map of India has been launched to provide details of ODOP products of all the States and UTs.
  - The digital map also has indicators for Tribal, SC, ST, and aspirational districts. It will enable stakeholders to make concerted efforts for its value chain development.
- An agreement has been signed with the Union Bank of India as the Nodal Bank of the scheme and MoUs with 11 banks as official lending partners for the PMFME Scheme.
- National Rural Livelihood Mission has recommended 43,086 SHG members to State Nodal Agencies (SNA) for an amount of Rs. 123.54 Cr. SNA has approved the seed capital of 8040 members and disbursed the amount of Rs. 25.25 Cr. to State Rural Livelihood Mission.

- MoUs have been signed with NAFED and TRIFED to take up the marketing and branding support for 10 products each

Challenges with informal Food Processing Industry

- lack of productivity and innovation due to limited skills and access to modern technology and machinery for production and packaging;
- deficient quality and food safety control systems, including lack of basic awareness on good hygienic and manufacturing practices
- lack of branding & marketing skills and inability to integrate with the supply chains
- capital deficiency and low bank credit
- 80% of them are family based enterprises supporting livelihood in rural household and minimizing their migration to urban areas

What measures are required?

- **Robust measures:** The food processing industries have a larger scope for acceleration in future given the thrust on doubling farmer's income. It demands for a vibrant and robust response from agro-based food and agro-based non-food industries and other stakeholders.
  - **Effective storage:** The cold storage facilities need to be developed in the major production catchments so that the farmer has the option to store the produce and may hold it back when the market is saturated and sell it when shortages occur.
  - **Transforming into export industry:** Turning agro and food-processing industry into a major export industry can also create vast employment opportunities for workers since it is a labour intensive industry.
  - **Promotion of agri-based industries:** Agri-based industries conform to the notion of competitive advantage both within and outside the country. They can play a role of a safety valve to absorb surplus rural labour and can address the problem of large scale unemployment/ disguised employment in rural areas.
  - **Focused primary processing:** To reduce waste and cut back on transport and handling costs, primary processing of all foods and processing of perishable foods needs to be undertaken in, or adjacent to, the point of production.
- **National plan:** It is high time that the national plan for improvement and extension of agro-processing technology at farm, traditional small industry and modern industry levels is prepared, while taking into account the diversity in resources and needs of different regions in the country.
- **More financial support:** Thrust areas for research and development need to be identified and met with. More financial incentives and support need to be provided to promote the modernization of agro-processing industry and for establishing new such industries in production catchments.

◉ CONCLUSION

The government needs to ensure a level playing field to food processing industries vis-à-vis unfair trade practices adopted by exporters of other countries. Awareness generation amongst agro-based industries becomes a key ingredient in successful utilization of available trade remedies and to protect them from unfair trade practices of exporters of other countries.

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ETHICS AND GOVERNANCE OF ARTIFICIAL INTELLIGENCE FOR HEALTH

CONTEXT

The World Health Organization (WHO) has issued first global report on Artificial Intelligence (AI) in health and six guiding principles for its design and use.

⦿ BACKGROUND

- The WHO guidance on 'Ethics & Governance of Artificial Intelligence for Health' is the product of deliberation amongst leading experts in ethics, digital technology, law, human rights, as well as experts from Ministries of Health
- While new technologies that use artificial intelligence hold great promise
  - to improve diagnosis, treatment, health research and drug development and
  - to support governments carrying out public health functions, including surveillance and outbreak response
- Such technologies, must put ethics and human rights at the heart of its design, deployment, and use.

⦿ ANALYSIS

Ethical challenges to use of artificial intelligence for health care

- Assessing whether artificial intelligence should be used or not.
- Artificial intelligence and the digital divide due to poor digital literacy among many nations
- Data collection and use in an ethical way remains a concern owing to privacy issues.
- Accountability and responsibility for decision-making with artificial intelligence is yet to be ascertained.
- Autonomous decision-making can be an impediment in human intelligence based decision making.
- Bias and discrimination associated with artificial intelligence will avoid people to take up new R&D in the field of health which leads to slow pace in development.
- Risks of artificial intelligence technologies to safety and cybersecurity of big data which is both sensitive and personal.
- Impacts of artificial intelligence on labour and employment in health and medicine is a major challenge of Industrial Revolution 4.0.

Key ethical principles for use of artificial intelligence for health

- **Protecting human autonomy:**
  - In the context of health care, this means that humans should remain in control of health-care systems and medical decisions.
  - It also requires protection of privacy and confidentiality and obtaining valid informed consent through appropriate legal frameworks for data protection.
- **Promoting human well-being and safety and the public interest**.
  - The designers of AI technologies should satisfy regulatory requirements for safety, accuracy and efficacy for well-defined use cases or indications.
  - Preventing harm requires that AI not result in mental or physical harm that could be avoided by use of an alternative practice or approach.
- **Ensuring transparency, explainability and intelligibility.**
  - AI technologies should be intelligible or understandable to developers, medical professionals, patients, users and regulators.
  - Transparency requires that sufficient information be published or documented before the design or deployment of an AI technology.
- **Fostering responsibility and accountability**.
  - Responsibility can be assured by application of "human warranty", which implies evaluation by patients and clinicians in the development and deployment of AI technologies.
  - Appropriate mechanisms should be available for questioning and for redress for individuals and groups that are adversely affected by decisions based on algorithms.
- **Ensuring inclusiveness and equity**.
  - Inclusiveness requires that AI for health be designed to encourage the widest possible appropriate, equitable use and access, irrespective of age, sex, gender, income, race, ethnicity, sexual orientation, ability or other characteristics protected under human rights codes.

- No technology, AI or otherwise, should sustain or worsen existing forms of bias and discrimination.

- **Promoting AI that is responsive and sustainable**.
  - Responsiveness requires that designers, developers and users continuously should determine whether AI responds adequately and appropriately and according to communicated, legitimate expectations and requirements.
  - Sustainability, apart from environmental obligation also requires governments and companies to address anticipated disruptions in the workplace, including training for health-care workers to adapt to the use of AI systems, and potential job losses due to use of automated systems

Framework for governance of artificial intelligence for health

(A) Governance of data

- Governments should have clear data protection laws and regulations for the use of health data and protecting individual rights, including the right to meaningful informed consent.

Elements of transparent data use

- Governments should require entities that seek to use health data to be transparent about the scope of the intended use of the data
- Mechanisms for community oversight of data should be supported. These include data collectives and establishment of data sovereignty by indigenous communities and other marginalized groups.

(B) Control and benefit-sharing

- Governments should consider alternative "push-and-pull" incentives instead of IP rights, such as prizes or end-to-end push funding, to stimulate appropriate research and development
- Governments, research institutions and universities involved in the development of AI technologies should maintain an ownership interest in the outcomes so that the benefits are shared and are widely available and accessible, particularly to populations that contributed their data for AI development.

(C) Governance of the private sector

- Governments should consider adopting models of co-regulation with the private sector to understand an AI technology, without limiting independent regulatory oversight.
- Governments should also consider building their internal capacity to effectively regulate companies that deploy AI technologies and improve the transparency of a company's relevant operations.

(D) Governance of the public sector

- Governments and national health authorities should ensure that decisions about introducing an AI system for health care and other purposes are taken not only by civil servants and companies
- It should be a democratic participation of a wide range of stakeholders and in response to needs identified by the public health sector and patients

⊙ CONCLUSION

AI for health is a fast-moving, evolving field, and many applications, not yet envisaged, will emerge with ever-greater public and private investment. India should consider issuing specific guidelines for tools and applications and update their approach periodically to keep pace with this rapidly changing field.

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GLACIAL LAKE ATLAS OF GANGA RIVER BASIN RELEASED

⊙ CONTEXT: **The Department of Water Resources, River Development, and Ganga Rejuvenation (DoWR, RD & GR) released the Glacial Lake Atlas of Ganga Basin.**

- The NHP –Bhuvan portal was also launched.

About the Glacial Lake Atlas

- The present glacial lake atlas is based on the inventoried glacial lakes in part of Ganga River basin from its origin to foothills of Himalayas covering a catchment area of 2,47,109 sq. km.
- The study portion of Ganga River basin covers part of India and transboundary region.
- The Ganga River Basin Atlas is brought out under the National Hydrology Project (NHP).
- The atlas is prepared with the efforts of the National Remote Sensing Centre (NRSC), ISRO under the National Hydrology Project (NHP).

National Hydrogen Project (NHP)

- National Hydrogen Project (NHP) is a Central Sector Scheme implemented by the Department of Water Resources, River Development & Ganga Rejuvenation (DOWR, RD & GR).
- **Funding:** It is funded by the Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD&GR), Ministry of Jal Shakti, Government of India.
- **Objective:** To improve the extent, quality and accessibility of water resources information and to strengthen the capacity of targeted water resources management institutions in India.

NHP-Bhuvan Portal

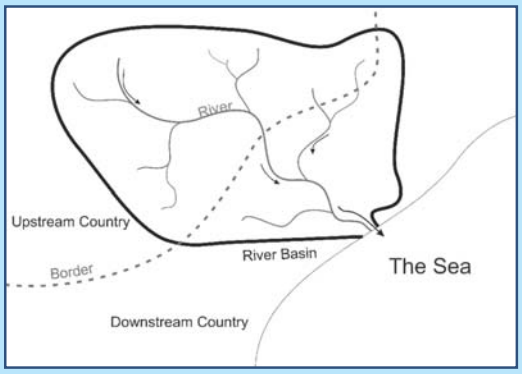
- The NHP –Bhuvan portal is launched by the **National Remote Sensing Centre (NRSC).**
- NHP-Bhuvan Portal is a repository of information on the initiatives undertaken by NRSC under NHP with a facility to download the reports and knowledge products being developed by NRSC.

About Ganga Basin

- The Ganges River originates in the Himalaya Mountains at Gomukh, the terminus of the **Gongotri Glacier.**
  - When the ice of this glacier melts, it forms the clear waters of the **Bhagirathi River.**
  - As the Bhagirathi River flows down the Himalayas, it joins the **Alaknanda River**, officially forming the **Ganges River.**
- The **Ganges River Basin** is sometimes considered part of a larger river basin consisting of the nearby **Brahmaputra** and **Meghna rivers**.
- Known as the **Ganges-Brahmaputra-Meghna (GBM) River Basin**, it is one of the largest river systems in the world.

River Basin

- A river basin is a region that is drained by a river, such as the Ganges, and any of its tributaries.
- This means that surface water and rainwater in the basin area flow into the nearby rivers.



Utilization of the Atlas

- The atlas provides a **comprehensive and systematic glacial lake** database for Ganga River basin with size > 0.25 ha.
- The atlas also provides authentic database for regular or periodic monitoring changes in spatial extent (expansion/shrinkage), and formation of new lakes.
- The atlas can also be used in conjunction with glacier information for their retreat and climate impact studies.
- Central and State Disaster Management Authorities can make use of the atlas for disaster mitigation planning and related program.

Glacial Lakes and Glacial lake outburst flood (GLOF)

- The lakes receiving melting water from glaciers are generally known as **glacial lakes.**
  - **A glacial lake** is defined as water mass existing in a sufficient amount and extending with a free surface in, under, beside, and/or in front of a glacier and originating from glacier activities and/or retreating processes of a glacier.
- As glaciers retreat, the formation of glacial lakes takes place behind moraine or ice 'dam'.
- These damming materials are generally weak and can breach suddenly due to various triggering factors, leading to catastrophic floods.
- Such outburst floods are known **as GLOF.**

DMCA NOTICES FOR PROTECTION OF INTELLECTUAL PROPERTY ONLINE

⊙ CONTEXT: **Union Minister for Electronics and Information Technology and Law and Justice Ravi Shankar Prasad is alleged to be a violator of the Digital Millennium Copyright Act (DMCA).**

What is DMCA?

- The Digital Millennium Copyright Act, or DMCA, is a 1998 law passed in the US.
- It is among the world's first laws recognizing intellectual property on the internet.
- The DMCA oversees the implementation of two 1996 treaties signed by **World Intellectual Property Organisation (WIPO)** member nations. The two treaties are namely:
  - The WIPO Copyright Treaty
  - The WIPO Performances and Phonograms Treaty
- Both the treaties protect intellectual property that may have been created by citizens of different nations who are also co-signatories to the treaty.
- It also provides the necessary international legal protection to digital content.

What is Intellectual Property?

- Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce.
- IP is protected in law by, for example, patents, copyright and trademarks, which enable people to earn recognition or financial benefit from what they invent or create.
- By striking the right balance between the interests of innovators and the wider public interest, the IP system aims to foster an environment in which creativity and innovation can flourish.

Who can generate a DMCA notice?

- Any content creator of any form, who believes that their original content has been copied by the user or a website without authorization can file an application citing their intellectual property has been stolen or violated.

WIPO and its protection of content on the internet

- WIPO is the global forum for intellectual property (IP) services, policy, information, and cooperation.
- It is a self-funding agency of the United Nations, with 193 member states.
- Its mission is to lead the development of a balanced and effective international IP system.
- Its mandate, governing bodies, and procedures are set out in the WIPO Convention, which established WIPO in 1967.
- India is also a member of WIPO.
- To tackle the problem of content copying from the website, WIPO agreed to extend the copyright and intellectual property protection to digital content.

"ENFORCING CONTRACTS PORTAL" LAUNCHED BY THE JUSTICE DEPARTMENT

⊙ **CONTEXT:** **"Enforcing Contracts Portal" was inaugurated by the Department of Justice.**

⊙ ABOUT:

Enforcing Contracts Portal

- The "Enforcing Contracts" indicator is one of the measures to generate the **Ease of Doing Business (EoDB) index.**
  - The Ease of Doing Business (EoDB) index is a ranking system that is an indication of an economy's position relative to that of other economies across 11 areas of business regulation.
  - Currently, only the cities of Delhi and Mumbai are under the purview of the ***Ease of Doing Business survey*** by the World Bank. Kolkata and Bengaluru are likely to be included in the Doing Business Report in the future.
- The portal is envisioned to be a comprehensive source of information about the legislative and policy reforms being undertaken on the "Enforcing Contracts" parameters.
  - The **"Enforcing Contracts"** indicator is one such essential area that measures time and cost to resolve a standardized commercial dispute as well as a series of good practices in the judiciary.
- It includes the latest data related to the functioning and disposal of commercial cases in the Dedicated Commercial Courts of Delhi, Mumbai, Bengaluru, and Kolkata.
  - These Dedicated Commercial Courts have been established for the speedy resolution of commercial disputes and boast of dedicated infrastructure and exclusive judicial human power.
- The portal contains several features such as:
  - details/links of the Dedicated Commercial Courts in Delhi, Mumbai, Bengaluru, and Kolkata
  - instructive videos related to e-filing
  - advocate registration
  - manuals on using the Electronic Case Management Tools(ECMTs) like JustIS app for judicial officers
  - e-Courts services app for use by lawyers (developed by the e-Committee, Supreme Court of India)
  - a repository of all related commercial laws for ready reference
- The new portal also hosts online reporting by all High Courts regarding the Mediation and Arbitration centers.

Doing Business Report

- The Doing Business Report is released by the **World Bank Group.**
- It benchmarks business regulations across 191 economies of the world.
- Doing Business covers 12 areas of business regulation.
- Ten of these areas—starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency—are included in the ease of doing business score and ease of doing business ranking.

'ITAT E-DWAR', AN E-FILING PORTAL OF INCOME TAX APPELLATE TRIBUNAL LAUNCHED

⊙ CONTEXT: **Union Ministry for Law & Justice, Communications and Electronics & IT, formally launched the e-filing portal of Income Tax Appellate Tribunal (ITAT), 'itat e-dwar'.**

⊙ ABOUT:

e-filing portal

- It is an initiative to reduce the digital divide among the people.
- The launch of the e-Filing Portal 'itat e-dwar' aims to enhance the accessibility, accountability, and transparency in the day-to-day working of the ITAT.
- It would not only result in economization of the use of paper, savings in costs but also rationalization of the fixation of cases leading to quicker disposal of cases.
- The newly developed e-Filing Portal would enable the parties to file their Appeals, Miscellaneous Applications, documents, paper books, etc., electronically.
- It is a step towards the digitization of ITAT.

How India is moving towards digitalization

- Nearly 129 crore of the Indian population are enrolled for Aadhar.
- Nearly 40 crore bank accounts have been opened for the poor and linked to Aadhar.
- Digital India has positioned India as a world leader in digital payments.

Steps towards digitization of judicial system

- e-Courts Project
- Draft Vision Document of e-Courts Project Phase III
  - ▸ A sub-committee the E-Committee of the Supreme Court has released the Draft Vision Document of e-Courts Project Phase III. The objective it hopes to achieve is on finalization to provide a blueprint for the judiciary to adopt and implement digitization.
- Supreme Court Portal for Assistance in Court's efficiency (SUPACE)
  - ▸ It is an AI-driven tool designed to assist judges with processing information.
- National Judicial Data Grid (NJDG)
  - ▸ It will permit citizens to check the pendency of cases across the country.
- E-SevaKendras and the e-Courts Services App
- **Tele-Law:** Department of Justice has partnered with NALSA and CSC e-Governance Service India Limited for mainstreaming legal aid to the marginalized communities through Common Services Center (CSC).Tele-Law means the use of communications and information technology for the delivery of legal information and advice.

DELIMITATION IN THE J&K

⊙ CONTEXT: **The prospects of rising political activity in J & K are rising, which give way to the formation of delimitation commission in the state.**

About the Delimitation Commission:

- After every census, Parliament enacts a **Delimitation Act** under **Article 82** of the Constitution.
- Under this act, a high-powered body known as the Delimitation Commission is constituted.
- It carries out the process of demarcation of constituency boundaries.
- The orders of this commission are legally binding and not subject to the scrutiny of any court of law.
- Even Parliament cannot suggest modifications to an order issued by the commission.
- The commission is a temporary body with no full-fledged staff of its own.
- It relies on EC employees to carry out the long-drawn exercise.
- Census data for each district, tehsil and gram panchayat is collected, and the new boundaries are demarcated.
- The exercise can take up to five years.
- **Structure of Delimitation Commission**: The commission consists of
  - A chairman — a retired or sitting judge of the Supreme Court
  - The chief election commissioner or any of the two election commissioners
  - The election commissioner of the state in which the exercise is being carried out.
  - In addition, five MPs and five MLAs of the state are chosen as associate members of the commission.

What is the process of Delimitation?

- Delimitation refers to the process of demarcation of the boundaries of parliamentary or assembly constituencies.
- The process is carried out by delimitation commission every few years to ensure that each constituency has approximately an equal number of voters.

Delimitation Commission for J&K

- The government set up the Delimitation Commission, headed by retired Supreme Court judge Ranjana Prakash Desai.
- Delimitation in J&K has followed a slightly different trajectory than in the rest of the country, due to the **special status** it was accorded under **Article 370.**
- The delimitation of Lok Sabha seats in J&K was governed by the Constitution of India.
- On the other hand, the state's Assembly seats was governed by the **Jammu and Kashmir Constitution** and by the **Jammu and Kashmir Representation of the People Act, 1957.**
- The last time a delimitation exercise was conducted in J&K was under **President's Rule** in 1995 by the retired Justice K.K. Gupta's Commission.
- The next exercise was due in 2005, but in 2002, the Farooq Abdullah government chose to freeze delimitation until 2026 by amending the Jammu & Kashmir Representation of the People Act, 1957, and **Section 47(3)** of the **Constitution of Jammu & Kashmir.**

A delimitation commission was first constituted for J&K in **1952.** Subsequently, they were constituted in **1963, 1973** and **2002.**

How the freezing of delimitation is contentious?

- It is argued that the freeze enforced in 2002 has led to poorer representation for Jammu.
- The delimitation of J&K is a politically volatile issue since it is directly related to the representation of Muslim-dominated Kashmir and Hindu-dominated Jammu in the legislative assembly.

DETAILED PROJECT REPORTS OF LIDAR SURVEY OF FOREST AREAS RELEASED

⊙ CONTEXT: **Ministry of Environment, Forest, and Climate Change released the Detailed Project Reports (DPRs) of LiDAR-based survey of forest areas in ten states namely Assam, Bihar, Chhatisgarh, Goa, Jharkhand, Madhya Pradesh, Maharashtra, Manipur, Nagaland, and Tripura.**

About the LIDAR survey of forest areas

- The project study is awarded by WAPCOS, a PSU under the aegis of the Ministry of Jal Shakti.
- The Detailed Project Reports (DPRs) were formed using the LiDAR technology.
- The DPR's were produced using LiDAR technology in which the 3-D(three-dimensional) DEM (Digital Elevation Model), imagery, and layers of the project areas are used.

Significance of study:

- The project will help augment water and fodder in jungles areas. It will -
  - reduce human-animal conflict
  - help in groundwater recharge
  - help local communities
  - state forest departments to use CAMPA funds
  - The project reports will help recommend the micro soil and water conservation structures consistent with site-specific geography, topography, and soil characteristics.
  - It will recommend different types of Soil & Water conservation structures such as Anicut, Gabion, Gully Plug, Mini percolation tank, Percolation Tank, Field bund, Sunken pond, Farm pond, etc.
  - These structures will help in catching the rainwater and prevent stream runoff, which will help in recharging Groundwater.

What is LiDAR technology?

- Lidar stands for Light Detection and Ranging.
- It is a remote sensing method.
- It uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth.
- These light pulses—combined with other data recorded by the airborne system — generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.

- Lidar systems allow scientists and mapping professionals to examine both natural and manmade environments with accuracy, precision, and flexibility.

Applications of LiDAR

- Land Surveying
- Power Line Inspection for Maintenance
- Forestry and Farming survey
- Mining Application
- Transportation Expansion

AGNI P BALLISTIC MISSILE SUCCESSFULLY TESTED

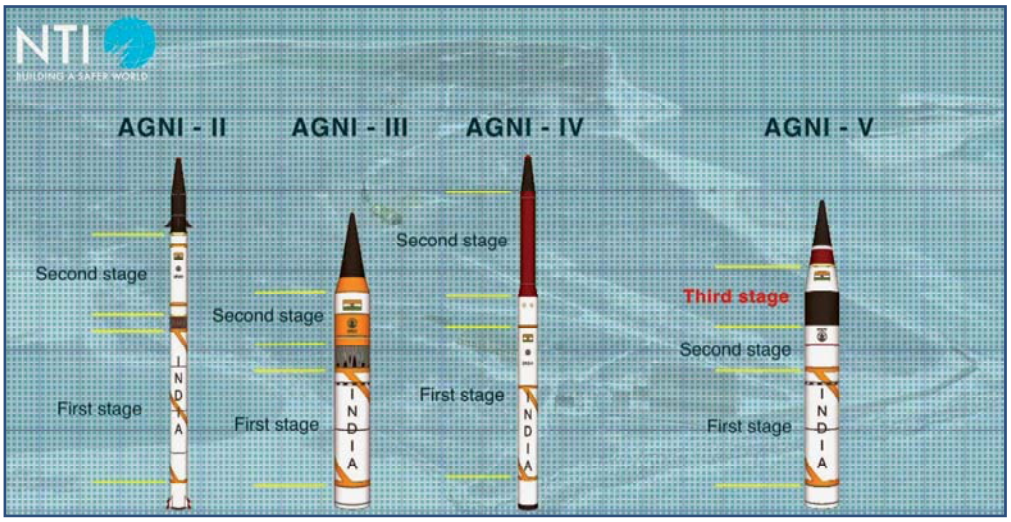
⊙ CONTEXT: **Defence Research and Development Organisation (DRDO) successfully flight tested a New Generation Nuclear Capable Ballistic Missile 'Agni P' from Dr APJ Abdul Kalam island off the coast of Odisha.**

What is Agni P Ballistic Missile?

- Agni P is a new generation advanced variant of **Agni class of missiles.**
- It is a **canisterised missile.**
- It is transported by a truck and launched via a canister.
- Its range capability lies between **1,000 and 2,000 kms.**
- It is a **strategic and conventional.**
- It is thermobaric and uses oxygen from the surrounding air to generate a high-temperature explosion.
- With **two stage solid fuel system**, Agni P is a new generation nuclear capable ballistic missile.
- It is developed under the **project Agni I Prime.**

Agni-missiles

- Agni-missiles are designed & developed by DRDO and inducted into Services to act as deterrence & meet the country's security requirements.



DEVELOPMENT OF THE ELECTRICALLY CONFIGURED NANO-CHANNELS

⊙ CONTEXT:

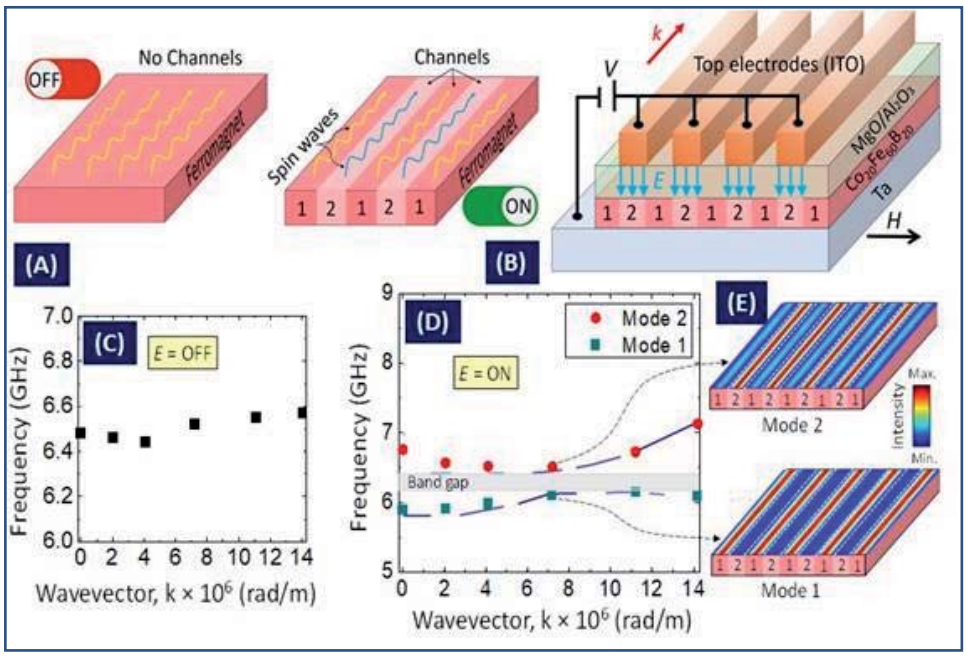
Scientists have developed electrically configured nanochannels that can eliminate unwanted energy waste and promise wave-based computing.

- It was developed by S. N. Bose National Centre for Basic Sciences, an autonomous institute under the **Department of Science and Technology (DST), Government of India.**

⊙ ABOUT:

The Electrically configured Nano-channels

- These channels are electrically reconfigured parallel nanochannels.
- **Principal:** They tune the behaviour of spin wavesinnano-structure elements.



What is Spin Wave?

- A spin wave is a collective motion of a magnetic moment in magnetically ordered materials.
- It is a propagating disturbance in the ordering of a magnetic material.
- These low-lying collective excitations occur in magnetic lattices with continuous symmetry.
- The spin wave plays an important role in spintronics as a carrier of spin current, that is, a flow of spin angular momentum.

What is Spintronics?

- It is also known as spin electronics, or the study of the intrinsic spin of the electronand its associated magnetic moment.
- In solid-state devices offer to harness electron spins.
- Their collective precession can carry information encoded in its amplitude, phase, wavelength, and frequency without any physical motion of particles, eliminating unwanted energy waste and promising wave-based computing.

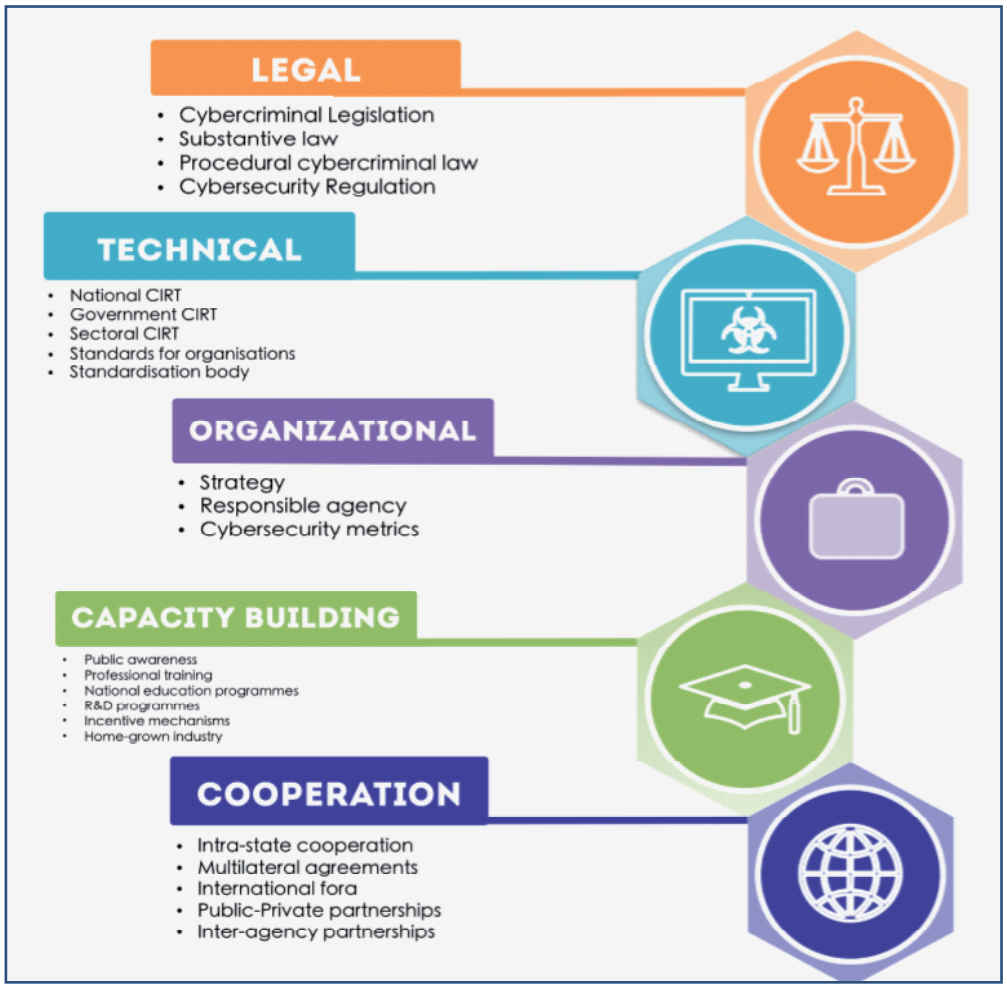
- It is done through the anisotropy using the electric field. This is technically called the principles of voltage-controlled magnetic anisotropy**.**
- The spin-waves were efficiently transferred through these nanochannels, and this could be switched 'ON' and 'OFF' and its magnitude altered by a meagre voltage of few volts.

INDIA RANKED UNDER TOP 10 IN GLOBAL CYBER SECURITY INDEX 2020 RANKINGS

⊙ CONTEXT: **India showed a significant improvement in the GCI ranking by reaching 37 places upward. It is ranked 10th in the 4th edition of the Global Cybersecurity Index 2020 (GCI).**

About the Global Cybersecurity Index 2020

- The index is released by the United Nations (UN) agency for information and communication technologies (ITU).
- It was the 4th edition of the GCI ranking.
- It measures the commitment of countries to cybersecurity at a global level.
- Pillars: The GCI index is based on the countries commitment to 5 pillars namely:Legal, Technical, Organizational, Capacity development and Cooperation.



Key-findings of the index

- Overall ranking: USA, UK, Saudi Arabia, and Estonia are ranked at top 3 positions, respectively, in the Index.
  - The UK and Saudi Arabia are placed in 2nd position together.
  - The top rank in the GCI was secured by the US with a score of 100.
  - In the Asia Pacific region, South Korea and Singapore ranked at the top with a score of 98.52, tied for the fourth spot globally.
  - The list featured China at the 33rd spot and Pakistan at the 79th spot in the GCI 2020 report.
- India's ranking: India ranked 10th in the Global Cybersecurity Index 2020 (GCI).
  - India also ranked 4th in the Asia-Pacific region.
  - In the last edition of the GCI in 2018, India was placed at the 47th spot.
  - India achieved a consolidated score of 97.5.
  - The score is based on 20 indicators under 5 pillars.

United Nations specialized agency for information and communication technologies

- ITU is the United Nations specialized agency for information and communication technologies – ICTs.
- It helps in allocating the global radio spectrum and satellite orbits, develop the technical standards that ensure networks and technologies seamlessly interconnect, and strive to improve access to ICTs to underserved communities worldwide.
- ITU is committed to connecting all the world's people wherever they live and whatever their means.
- ITU brings the benefits of modern communication technologies to people everywhere in an efficient, safe, easy, and affordable manner.
- It also released the Global Cybersecurity Agenda.

Global Cybersecurity Agenda (GCA)

- It was launched in 2007 by ITU.
- Global Cybersecurity Agenda (GCA) is a framework for international cooperation aimed at enhancing confidence and security in the information society.
- The GCA is designed for cooperation and efficiency, encouraging collaboration with and between all relevant partners and building on existing initiatives to avoid duplicating efforts.

Significance

- It aims to raise awareness of the importance and different dimensions of the issue.
- The GCI will help to promote further action towards secure digital ecosystems needed for recovery and growth.
- It will also help address the growing cyber capacity gap between developed and developing countries by fostering knowledge, upskilling, and building competencies.

NTPC DECLARES ITS ENERGY COMPACT GOALS TOWARDS SUSTAINABILITY

⊙ CONTEXT:

NTPC Limited has become the first energy company in the energy domain in India to declare its Energy Compact goals as part of UN High-level Dialogue on Energy (HLDE).

- It is India's largest power generating company under the Ministry of Power.

About the NTPC Energy compact goals

- NTPC is among the few organizations globally to declare its Energy Compact goals.
- NTPC has set a target to install 60 GW of renewable energy capacity by 2032.
- India's largest power producer is also aiming at a 10% reduction in net energy intensity by 2032.

Energy intensity

- It is defined as the amount of **energy** used to produce a given level of output or activity. Using less **energy** to produce a product or provide a service results in reduced **energy intensity**.

- NTPC has declared that it will form at least 2 international alliances/groups to facilitate clean energy research and promote sustainability in the energy value chain by 2025.
- **Measures**: NTPC has been taking various steps in increasing its green energy portfolio by adding significant capacities of Renewable Energy (RE) sources.
  - The Company had earlier planned to have a minimum of 32 GW capacity through RE sources constituting nearly 25% of its overall power generation capacity by 2032.

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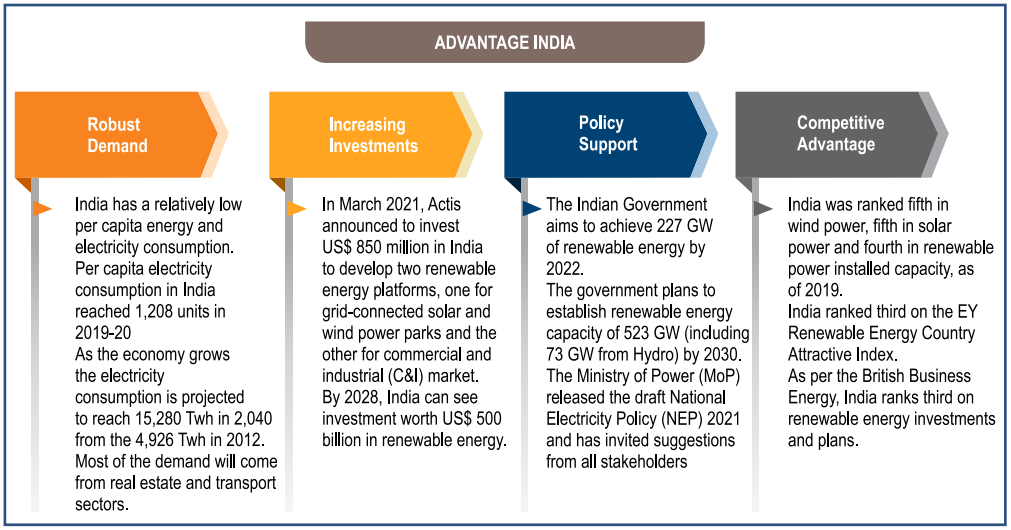

- **Significance:**This development will prove to be a huge boost for the nation's largest energy producer that will catapult its position in the green energy map of the country.

UN High-level Dialogue on Energy (HLDE)

- Following the General Assembly resolution 74/225, a High-level Dialogue on Energy will be convened at a summit-level during the 76th session of the **UN General Assembly** in September 2021 in New York.
- It aims to accelerate **SDG 7** action for the achievement of the 2030 Agenda for Sustainable Development and the Paris Agreement on climate change.
- The Dialogue represents the first inclusive global gathering on energy under the auspices of the General Assembly since the **UN Conference on New and Renewable Sources of Energy held in Nairobi in 1981.**
- It presents a historic opportunity to provide transformational action in the first years of the Decade of Action to deliver the SDGs and support the implementation of the **Paris Agreement.**

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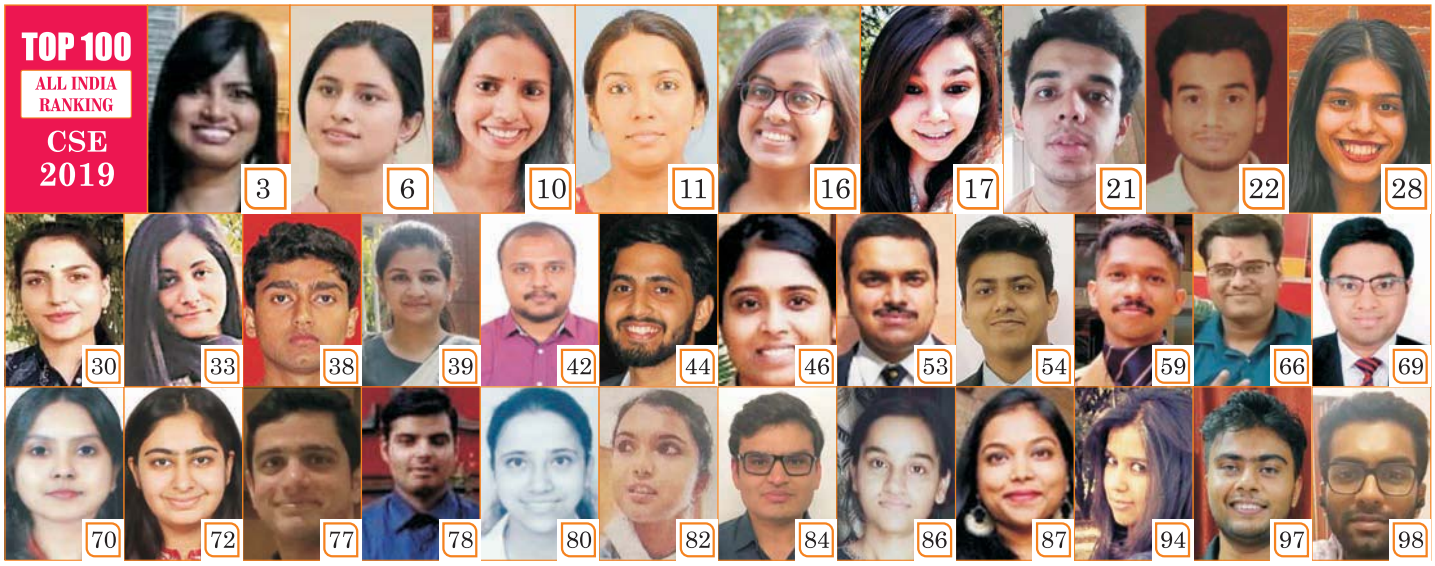

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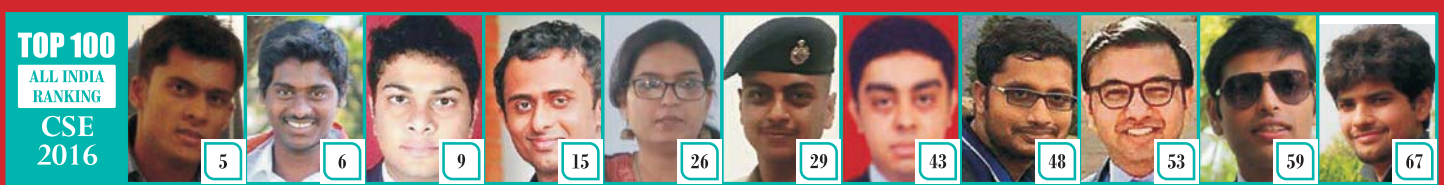

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