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# PRESS INFORMATION BUREAU (PIB) IAS UPSC – 22nd February to 28th February – 2021

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Date March 8, 2021

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#### **Vice President calls for ending low representation to women in Parliament and legislatures**

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***(Topic: Parliament and State Legislatures, structure, functioning, conduct of business, powers & privileges and issues arising out of these)***

Inclusion of all sections of society in parliament means better, stronger and more representative democracy that works to preserve, protect and assure the rights of people for the overall development of the nation. The parliament of India still lacks inclusive representation especially of women and minorities.

**Representation of women:**

India has had a long-serving woman prime minister and speakers of the House. Yet its record of women parliamentarians is woefully poor. Only the 15th, 16th and 17th Lok Sabha changed a previously stagnant representation of under 9% recorded by Indian women MPs since Independence.

The 17th Lok Sabha has the highest number of women MPs (78) elected in the 2019 polls. In comparison, the last election data shows that in 2014, 11.23 per cent of women won, and in 2019 it is around 14.58 per cent, but it is still far below the actual population of women i.e. 49%. Representation of women in Rajya Sabha is also very less with only 26 members out of 235. So, on grounds of fairness, this is an anomaly.

According to Inter-Parliamentary Union (IPU) and UN Women report — Women in Politics 2019, India stood 149th in a 2019 list of 193 countries ranked by the percentage of elected women representatives in their national parliaments, trailing Pakistan, Bangladesh and Afghanistan and dropping three places since 2018, while the world average was 24.3% as on January 1, 2019.

**Representation of minorities:**

India is the largest democracy in the world, yet there is very little representation of all communities, given their population. In India, religious minorities other than Muslims find better representation in the Lok Sabha. Sikhs have a representation score of 0.3 percentage points while Christians, Buddhists and Jains also have equitable representation as per their population.

According to Census 2011 estimates, Muslims in India accounts for over 14% of the country's total population. A proportionate representation of the community in the Lok Sabha, at present, would amount to at least 77 parliamentarians but the number of Muslim lawmakers in the 17th Lok Sabha is just 27.

**Various factors limit minority representation:**

- Political parties not giving tickets to minority candidates due to Communalization of politics.
- Delimitation and reservation of constituencies by Election commission: Minority tend to get fielded in seats with larger concentrations of minority voters. Some of these seats are reserved, thus limiting their demographic advantage

## **Measures to address these issue:**

- Minimum 33 % quotas for women in Parliament.
- Reservation for women in political parties: Like Norway, Sweden and France, India should have an Election Commission-led effort to push for reservation for women in political parties.
- Awareness, education and role modelling that encourage women towards politics.
- Need for greater political will for more inclusivity of minority and women.
- Delimitation and reservation of constituencies to be done considering the minority population.
- De-communalization of politics is need of the hour.
- Political parties, especially Regional parties should consider representation of minorities while giving tickets.
- Ruling parties, irrespective of their composition, should work beyond the lines of gender, religion and cast.
- Existing dedicated ministries and national commissions for minorities and women should be strengthen.

There is documented evidence both at the international level and at the gram panchayat (village) level to suggest that a greater representation of women and minorities in elected office balances the process and prioritizations that elected bodies focus on. A fully representative Parliament leads to a progressive society, with equality of opportunities among all citizens for a better future of a democratic society.

## **Why do we need women in power?**

As representatives, we need women

- To eliminate the systemic biases and structural barriers that keep our girls out of the tech industry, our victims of gender-based violence in fear and our women's sports teams under-funded.
- To dismantle structural barriers, the responsibility falls on working women who have successfully overcome constraints to open the gates for other women.
- To design laws that encourage better education for girls.
- To secure financial independence and formal employment for women.
- To push up our abysmal female labour force participation rates.
- To ensure that female hygiene products are not taxed as luxury goods.

In addressing systemic biases, exposure to women in office weakens stereotypes about gender roles. Watching women in leadership positions reduces the negative perceptions men have about their effectiveness as leaders. It also induces men to dream better dreams for their daughters, and that is no mean feat.

Over the past few decades, women have made their mark as effective managers, bankers, professors, corporate leaders, lawyers, doctors and civil servants. These are women who know how to solve problems, get things done and manage multiple responsibilities.

Electing able women professionals will help us simultaneously achieve better representation and expertise.

**Note:**

- Kamaladevi Chattopadhyay was the first Indian woman to contest an election.
  - A postal stamp has been brought out in memory of **late Smt. Eashwari Bai**
    - Smt Eashwari Bai's contributions to the political and social spheres are truly laudable and left a deep imprint on the public mind
    - She had been the voice of the people as an opposition leader. She constantly advocated the cause of Children, NGOs, Teachers, Agricultural labourers, and the Scheduled Castes and the Scheduled Tribes
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## **City Innovation Exchange (CiX) Launched**

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***(Topic: Government schemes and policies)***

**By:** Ministry of Housing and Urban Affairs

- The CiX will connect cities to innovators across the national ecosystem to design innovative solutions for their pressing challenges.
- The platform will ease the discovery, design & validation of solutions through a robust, transparent and user-centric process that will reduce barriers for innovators and cities to discover fitting solutions.
- Built on the concept of 'open innovation', the platform will help in the flow of ideas 'outside in and inside out, enhancing the skills and capacity required to deliver smart urban governance.
- Through interaction with Academia and Businesses/Startups, the platform will benefit cities in the transfer of ideas from 'labs' to the real environment.
- Similarly, by helping urban governments interact with citizens, the platform will ensure the adoption of tested solutions that will be impactful and sustainable.

***Benefits:***

- The CiX platform will be a significant addition to the growing innovation ecosystem of India and focuses on fostering innovative practices in cities.
  - CiX, through an 'open innovation' process, engages with innovators to design-test-deliver on solutions to pressing urban challenges.
  - This initiative is among the ongoing efforts to realize PM's vision of New and AtmaNirbhar Bharat, by making cities more self-reliant and enabled to meet the needs of and provide services to their citizens.
  - The platform in due time will help our cities in adopting solutions that will enhance the quality of life for their residents and significantly improve the Ease of Doing Business.
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## National Urban Digital Mission (NUDM) & Several Digital Initiatives Launched For Transforming Urban Governance

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**(Topic: Government schemes and policies)**

**National Urban Digital Mission** will create the ideal space to harness immense synergies from the domain of urban and technology towards creating a citizen-centric governance that reflects Prime Minister Shri Narendra Modi's vision of 'minimum government and maximum governance'.

**Ministry: Ministry of Housing and Urban Affairs** and the **Ministry of Electronics and Information Technology**.

**Motto:** To deliver on the promise of serving all citizens and this is what *sabkasaath* – *sabkavikas* – *sabkavishwas* means for urban India today: enhancing the capacity of every city and town to serve citizens, build partnerships, and solve local problems locally.

The National Urban Digital Mission (NUDM) will create a shared digital infrastructure for urban India, working across the three pillars of people, process, and platform to provide holistic support to cities and towns. It will institutionalise a citizen-centric and ecosystem-driven approach to urban governance and service delivery in 2022 cities by 2022, and across all cities and towns in India by 2024.

- NUDM will create a shared digital infrastructure that can consolidate and cross-leverage the various digital initiatives of the Ministry of Housing and Urban Affairs, enabling cities and towns across India to benefit from holistic and diverse forms of support, in keeping with their needs and local challenges.
- NUDM is citizen-centric, ecosystem-driven, and principles-based in both design and implementation. NUDM has articulated a set of governing principles, and inherits the technology design principles of the National Urban Innovation Stack (NUIS), whose strategy and approach was released by MoHUA in February, 2019. The principles in turn give rise to standards, specifications, and certifications, across the three pillars of people, process, and platforms.

**India Urban Data Exchange (IUDX):** The India Urban Data Exchange has been developed in partnership between the Smart Cities Mission and the Indian Institute of Science (IISc), Bengaluru.

- IUDX serves as a seamless interface for data providers and data users, including ULBs, to share, request, and access datasets related to cities, urban governance, and urban service delivery.
- IUDX is an open-source software platform which facilitates the secure, authenticated, and managed exchange of data amongst various data platforms, 3rd party authenticated and authorised applications, and other sources.
- As the number of cities on IUDX expands, this will scale up to uniform and seamless sharing between data producers and data consumers across urban India. IUDX is designed to address the problem of data silos, both within and across cities.

- Cities generate large volumes of data, which are recorded by a wide range of entities, both within government and across industry, academia, and civil society. The combination of these datasets can enable rapid innovation, as well as a better understanding of and planning for urban needs and challenges.

**IUDX creates a secure and reliable channel for data producers or owners to share their data, with complete control over what is shared and with whom, in order to enable sharing while addressing security and privacy protections by design.**

**SmartCode Platform:** SmartCode is a platform that enables all ecosystem stakeholders to contribute to a repository of open-source code for various solutions and applications for urban governance.

It is designed to address the challenges that ULBs face in the development and deployment of digital applications to address urban challenges, by enabling cities to take advantage of existing codes and customising them to suit local needs, rather than having to develop new solutions from scratch.

**As a repository of open-source software, the source code available on the platform will be free to use without any licensing or subscription fees, thus limiting costs to those involved with customising the code and developing a locally-relevant solution.**

**New Smart Cities Website ver. 2.0 and GMIS:** In order to better connect with people on the Smart Cities Missions efforts and achievements, and to make it easier for ULBs and citizens to access resources related to their work, the Smart Cities Mission website has been redesigned to serve as a single stop for all Smart Cities initiatives. The Geospatial Management Information System (GMIS) is integrated with this website. The website creates a single window hub for Smart Cities Mission. A portal that works as a gateway to all the platforms and initiatives launched under the Mission.

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## **Government notifies Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021**

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***(Topic: Government policies and interventions for development in various sectors and issues arising out of their design and implementation)***

In a long anticipated move, the government notified guidelines that seek to provide a grievance redressal mechanism for users of digital platforms of all kinds — social media sites, messaging apps, over the top (OTT) streaming services, and digital news publishers.

The Information Technology (Guidelines for Intermediaries and Digital Media Ethics Code) Rules, 2021 mandate that social media and messaging platforms will have to adhere to new requirements in assisting investigative agencies of the government.

**What are the new rules?**



- The broad themes of the guidelines revolve around grievance redressal, compliance with the law, and adherence to the media code.
- Social media platforms like Google or Facebook, or intermediaries, for instance, will now have to appoint a grievance officer to deal with users complaints.
- intermediaries have to appoint a ‘Chief Compliance Officer, who will have to ensure that the rules are followed; the officer “shall be liable in any proceedings relating to any relevant third party information, data or communication link made available or hosted by that intermediary.
- The intermediaries will also have to appoint a nodal contact person for “24×7 coordination with law enforcement agencies
- The other key requirement is that such a social media intermediary would have to “enable the identification of the first originator of the information on its computer resource” as may be required by a judicial order.
- This means , a problematic message, that is considered “an offence related to the sovereignty and integrity of India, the security of the State, friendly relations with foreign states, or public order, or of incitement to an offence relating to the above or in relation with rape, sexually explicit material or child sexual abuse material”, will have to be traced to its initiator on messaging applications like WhatsApp and Signal.
- For digital publishers of news and current affairs as well as video streaming services, an identical three tier structure for grievance redressal has been mandated.
- This structure will look into grievances in relation to a Code of Ethics, which is listed in the appendix to the rules. Among other things, the Code of Ethics includes the ‘Norms of Journalistic Conduct’ as prescribed by the Press Council of India, as also content that shall not be published “content which is prohibited under any law for the time being in force shall not be published or transmitted.
- The guidelines also require streaming services to classify content based on its nature and type. So, for instance, content “for persons aged 16 years and above, and can be viewed by a person under the age of 16.

## **Context and need of guidelines**

- A 2018 Supreme Court observation and a 2020 Supreme Court order in Sudarshan TV case, in addition to discussion in Rajya Sabha once in 2018 and then through a report laid by a committee in 2020 asked the need for coming up with rules to “empower the ordinary users of digital platforms to seek redressal for their grievances and command accountability in case of infringement of their rights”.
- the government said that it wanted to create a level playing field in terms of rules to be followed by online news and media platforms vis-à-vis traditional media outlets.
- Citing instructions from the Supreme Court and the concerns raised in Parliament about social media abuse, the government released guidelines.
- The big push came in the form of the violent incidents at the Red Fort on January 26, compromised our honour on republic day, following which the government and Twitter were embroiled in a spat over the removal of certain accounts from the social media platform.

- Section 79 of the Information Technology Act provides a “safe harbour” to intermediaries that host user-generated content, and exempts them from liability for the actions of users.
- The new guidelines notified on Thursday prescribe an element of due diligence to be followed by the intermediary, failing which the safe harbour provisions would cease to apply.
- The recent campaign of misinformation on media during the CAA protests, farmers protests, toolkit case, Sudarshan tv case calls for more responsible regulation of these platforms. Social media is used to tarnish image of India is a matter of concern
- Government can regulate some content but it has to be in reasonable limits. Self-regulation by OTT and social media platforms is the best way forward. OTT platforms are providing very explicit porn content with no option of parental regulation. It is creating more problems of sexual abuse and harassment.
- Social media and OTT platforms are too big to control in terms of the information they generate, this does not mean that regulation cannot be done. A more proactive vigil and accountability from big platforms like Facebook and twitter will pave way for the harmonious balance of oversight.
- In the times of daily abuse, rape threats, hatred and unregulated pornographic content, social engagement has become matter of responsible and careful behaviour. We should not ignore elephant in the room and tame the giant before it goes out of control.

## **Cabinet approves**

### **Production Linked Incentive Scheme for Pharmaceuticals:** The Scheme will

Benefit domestic manufacturers

#### **Is expected to contribute to the availability of wider range of affordable medicines for consumers**

- Promote the production of high value products in the country and increase the value addition in exports. Total incremental sales of Rs.2,94,000 crore and total incremental exports of Rs.1,96,000 crore are estimated during six years from 2022-23 to 2027-28.
- The scheme is expected to generate employment for both skilled and un-skilled personnel, estimated at 20,000 direct and 80,000 indirect jobs as a result of growth in the sector.
- Promote innovation for development of complex and high-tech products including products of emerging therapies and in-vitro Diagnostic Devices as also self-reliance in important drugs.
- Improve accessibility and affordability of medical products including orphan drugs to the Indian population. The Scheme is also expected to bring in investment of Rs.15,000 crore in the pharmaceutical sector.

The scheme will be part of the umbrella scheme for the **Development of Pharmaceutical Industry**. The objective of the scheme is to **enhance India's manufacturing capabilities by increasing investment and production in the sector and contributing to product diversification to high value goods in the pharmaceutical sector**. One of the further objectives of the scheme is to create global champions out of India who have the potential to grow in size and scale using cutting edge technology and thereby penetrate the global value chains.

**Production Linked Incentive Scheme for IT Hardware:** The scheme proposes production linked incentive to boost domestic manufacturing and attract large investments in the value chain of IT Hardware. The Target Segments under the proposed Scheme include Laptops, Tablets, All-in-One PCs and Servers.

- The Scheme shall, extend an incentive of 4% to 2% / 1% on net incremental sales (over base year i.e. 2019-20) of goods manufactured in India and covered under the target segment, to eligible companies, for a period of four (4) years.
- The scheme will enhance the development of electronics ecosystem in the country. India will be well positioned as a global hub for Electronics System Design and Manufacturing (ESDM) on account of integration with global value chains, thereby becoming a destination for IT Hardware exports.
- The scheme has an employment generation potential of over 1,80,000 (direct and indirect) over 4 years.
- The Scheme will provide impetus to Domestic Value Addition for IT Hardware which is expected to rise to 20% – 25% by 2025

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## India-EU joint steering committee on science and technology

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*(Topic: India and international organisations)*

The India-EU joint steering committee on science and technology has agreed to develop and adopt a long-term strategic perspective for India-EU collaboration in research and innovation at the 13th Joint Steering Committee on Science and Technology Cooperation meeting hosted by the European Commission recently.

Taking into account the Joint Statement and the '**EU-India Strategic Partnership: A Roadmap to 2025**', adopted at the EU-India July Summit, both sides have shown keen interest for **possible cooperation on ICT**, in particular, cyber-physical-systems (ICPS), including artificial intelligence and robotics, circular economy and resource efficiency (waste-to-energy; plastics; etc.), electric mobility and sustainable agri-food processing and so on.

The important role of Mission Innovation to **concentrate efforts on research and innovation to accelerate the clean energy transition, necessary for a carbon-neutral planet**, was underlined, **cooperation on health beyond Covid-19**

**pandemic areas through global fora** was also reinforced. Both sides also underlined the **cooperation on polar sciences and discussed future cooperation under Horizon Europe** at the virtual meeting.

- The two sides reiterated their commitment to human capital development, including researchers' training and mobility, based on mutual interests and reciprocal promotion of each other's equivalent programmes, aiming at a more balanced flow of researchers between Europe and India.
- Indian side presented the key elements of new Science, Technology and Innovation Policy (STIP 2020), which aim to create a fit for purpose, accountable research ecosystem promoting translational as well as foundational research; indigenous development of technology, technology indigenization; facilitating open Science; equity and inclusion.
- The Indian side proposed Implementation Arrangement (IA) for co-funding future joint projects under India-EU Science, Technology, and Innovation Cooperation to streamline the process of collaboration and to address certain issues on project evaluation, selection, funding, monitoring, and also IPR sharing/data sharing/materials/equipment transfer mechanism and so on.
- During 2014-2020, 42 collaborative projects amounting to a total of EUR ~157 Million funding (EUR 113 from H2020 & EUR 44 from Government of India) have been funded. The majority of these collaborations took place in the form of flagship calls on water, a new generation influenza vaccine, and smart grids cooperation. The mobility of researchers from both sides was significantly increased over the years, and cooperation among scientists and research organisations from India and Europe strengthened.

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## **India and Mauritius sign Comprehensive Economic Cooperation and Partnership Agreement (CECPA)**

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***(Topic: India and international organisations)***

CECPA is the **first trade Agreement signed by India with a country in Africa**. The Agreement is a limited agreement, which will cover Trade in Goods, Rules of Origin, Trade in Services, Technical Barriers to Trade (TBT), Sanitary and Phytosanitary (SPS) measures, Dispute Settlement, Movement of Natural Persons, Telecom, Financial services, Customs Procedures and Cooperation in other Areas

**Impact/benefits:** CECPA provides for an institutional mechanism to encourage and improve trade between the two countries. The CECPA between India and Mauritius covers 310 export items for India, including food stuff and beverages (80 lines), agricultural products (25 lines), textile and textile articles (27 lines), base metals and articles thereof (32 lines), electricals and electronic item (13 lines), plastics and chemicals (20 lines), wood and articles thereof (15 lines), and others.

- Mauritius will benefit from **preferential market access into India** for its 615 products, including frozen fish, speciality sugar, biscuits, fresh fruits, juices, mineral water, beer, alcoholic drinks, soaps, bags, medical and surgical equipment, and apparel.
- As regards trade in services, Indian service providers will have access to around 115 sub-sectors from the 11 broad service sectors, such as professional services, computer related services, research & development, other business services, telecommunication, construction, distribution, education, environmental, financial, tourism & travel related, recreational, yoga, audio-visual services, and transport services.
- India has offered around 95 sub-sectors from the 11 broad services sectors, including professional services, R&D, other business services, telecommunication, financial, distribution, higher education, environmental, health, tourism and travel related services, recreational services and transport services.
- Both sides have also agreed to negotiate an Automatic Trigger Safeguard Mechanism (ATSM) for a limited number of highly sensitive products within two years of the Signing of the Agreement.

The India-Mauritius CECPA will further cement the already deep and special relations between the two countries.

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## **India at UNSC – Addressing climate-related risks to international peace and security**

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### ***(Topic: India and international organisations)***

*Important to ensure that no parallel tracks for climate negotiations are created brushing aside the fundamentally agreed principles*

*India–*

- Stressed that the idea of climate action should not be to move the climate ambition goal post to 2050 and it is important for countries to fulfill their pre-2020 commitments.
- United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement negotiated under the Framework are the central mechanisms for climate action in a nationally determined manner based on certain fundamental agreed principles, the foremost amongst which is “Common but Differentiated Responsibility and Respective Capabilities”

- Citing the 2019 IPCC Special Report “Climate Change and Land” which says that extreme weather and climate or slow-onset events may lead to increased displacement, disrupted food chains, threatened livelihoods, and could contribute to exacerbated stresses for conflict, India put forward the point that even the best science available claims that Climate Change only exacerbates conflict and is not a reason for conflict and does not threaten peace and security and therefore it is important, to ensure that no parallel tracks for climate negotiations are created brushing aside the fundamentally agreed principles.
- While climate change does not directly or inherently cause violent conflict, its interaction with other social, political and economic factors can, nonetheless, exacerbate drivers of conflict and fragility and have negative impacts on peace, stability and security; and therefore it is for precisely this reason that developing country’s’ Nationally Determined Contributions under the Paris Agreement included information on adaptation activities, and the need for finance, technology development and transfer, capacity building, and transparency
- Reiterated that the commitment by developed countries to jointly mobilize \$100 billion per year by 2020 in support of climate action in developing countries has not been realized and also stated that there is an urgent need to promote and support the meaningful participation of women and marginalized groups in national-level climate change policy and planning processes.
- India is the only country on track among the G20 nations to meet its climate change mitigation commitments. We are not only meeting our Paris Agreement targets but will also exceed them. The Minister highlighted the International Solar Alliance (ISA) and the Coalition for Disaster Resilience Infrastructure (CDRI), the two initiatives by India that have been launched to addressing challenges of climate change and adaptation.
- Commenting on post COVID-19 recovery, India believes that there is a significant opportunity for countries to integrate low-carbon development in their COVID-19 rescue and recovery measures and long-term mitigation strategies that are scheduled to be announced for the reconvened 26th session of the Conference of the Parties (COP 26) in 2021.

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## **Government of India & AIIB sign a \$304 million Assam Intra-State Transmission System Enhancement Project**

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***(Topic: India and international organisations)***

**Aim:** To improve reliability, capacity and security of the power transmission network in the State of Assam.

**The project aims to strengthen Assam’s electricity transmission system by**

1. constructing 10 transmission substations and laying transmission lines with the associated infrastructure;
2. upgrading 15 existing substations, transmission lines and existing ground wire to optical power ground wire; and

3. providing technical assistance to support project implementation.

The programme would strengthen the existing intrastate transmission network of Assam by augmenting it with newer networks to achieve affordable, secure, efficient and reliable 24×7 power. This would, in turn, bring Assam closer to ensuring long-term sustainability of its electricity supply.

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## **Government of India and World Bank Sign Project to Improve Quality of India's Education in Nagaland**

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***(Topic: India and international organisations)***

The Government of India, Government of Nagaland and the World Bank today signed a \$68 million project to enhance the governance of schools across Nagaland as well as to improve teaching practices and learning environments in select schools.

The “Nagaland: Enhancing Classroom Teaching and Resources Project” will improve classroom instruction; create opportunities for the professional development of teachers; and build technology systems to provide students and teachers with more access to blended and online learning as well as allow better monitoring of policies and programs. Such an integrated approach will complement conventional delivery models and help mitigate the challenges posed by COVID-19. About 150,000 students and 20,000 teachers in the government education system in Nagaland will benefit from the statewide reforms in schools.

Today, Nagaland faces challenges of weak school infrastructure, lack of opportunities for the professional development of teachers and limited capacity on the part of communities to partner effectively with the school system. The COVID-19 pandemic has further accentuated these challenges and created additional stress and disruptions to the state's school education system.

Strengthening Nagaland's Education Management and Information System (EMIS) will enable wider access to education resources; support professional development and performance evaluation systems for teachers and education managers; facilitate school leadership and better management; and support examination reforms. As part of that strategy, approximately 15 out of Nagaland's 44 higher secondary schools will be developed into school complexes that operationalize the envisioned learning environment during the project period.

### **Is India's “vaccine diplomacy” of being the supplier of choice for the world's vaccine demands is well-placed and offers hope for the global community?**

Publicly available data on the progression of the COVID-19 pandemic, caused by the SARS-CoV-2 virus, indicates that the number of infections in India peaked sometime in September 2020, and has been consistently declining ever since. From a maximum of 97,655 daily new cases on September 11, 2020, the daily new case count is 11,924 by first week in February 2021, with half of it from Kerala. According to the projections of the

**COVID-19 National Supermodel Committee set up by the Department of Science and Technology**, the number of active cases will drop to the low tens of thousands by the end of March.

All this connotes only the **end of the first phase of our fight against the virus**. It is crucial to ensure that the number of cases does not start increasing again, as it has in many countries such as Italy, the UK, and the USA. According to both serological surveys as well as model predictions, a substantial fraction of India's population currently has immunity against the virus, coupled perhaps with some natural form of immunity. Although the current evidence is suggestive of long lasting immune memory, **the immunity afforded by the presence of antibodies might be expected to last for only several months and not longer**, while T-cell mediated immunity might last longer. The most reliable longer-term protection is, however, provided through vaccination. It has been suggested recently that vaccination offers much stronger immune response than natural infection, and therefore is the key to controlling the spread of the disease. While this issue has not yet been settled decisively, some medical researchers are of the opinion that the **presence of antibodies (caused by a previous infection) offers less protection against reinfection from a mutation of the virus**, compared to vaccination. Hence, it is imperative that the **nationwide vaccination program be completed as early as possible with the approved vaccines**. Interestingly, the breadth of antibody response generated by a killed virus vaccine is likely to offer greater protection against mutated viruses, compared to vaccines that generate antibodies against the spike protein.

In the context of the need for nationwide vaccination, the regulatory authorities in India have given approval to two vaccines, one of them (**Covishield**) unconditionally and the other (**Covaxin**) in the clinical trial mode. Both vaccines have satisfied the expert committees as to safety and immunogenicity requirements. We wait for the Phase III data on Covaxin to become available so that its efficacy can be assessed.

The requirement that any vaccine must have **50% efficacy before it can be approved for emergency approval comes from the WHO**. Even at 40% efficacy, a vaccine affords some protection, and even at 80% efficacy, some vaccine recipients would still be left unprotected. Therefore, we trust the regulatory authorities to take an informed decision, and not be bound by this arbitrary guideline. A corollary to the above is that, even if everyone in the target population is vaccinated (basically, everyone over the age of 18), it is imperative for the public to continue observing safety protocols.

While there have been thousands of mutations observed in the SARS-CoV-2 virus to date, the so-called **UK variant is the first one to have demonstrated increased transmissibility, and perhaps, greater lethality after infection**. The world has thus far been fortunate in this regard. However, the longer the virus is allowed to spread among an unprotected public, the greater the opportunities for the virus to mutate into a more virulent form. This is all the more reason to start vaccinations with all available resources. In this connection, it is heartening that a preprint deposited in Biorxiv suggests that Covaxin is effective against the UK variant. We quote: "**A comparable**



***neutralization activity of sera of the vaccinated individuals shown against UK-variant and the heterologous strain with similar efficiency, dispel the uncertainty of possible neutralization escape.”***

The above line of reasoning suggests that we must stop the virus spreading and mutating and for that it is not enough that everyone in India only are vaccinated. In order to see an end to the pandemic, it is essential for the rest of the world also to be vaccinated as quickly as possible. India is well-poised to meet not just its own vaccine requirements, but also that of the world at large, in this critical area. It also suggests that India’s “vaccine diplomacy” of being the supplier of choice for the world’s vaccine demands is well-placed and offers hope for the global community.

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## **GS-3**

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### **Successful Launches of VL-SRSAM Missile System**

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***(Topic: Space and Technology)***

**By:** Defence Research & Development Organisation (DRDO)

**From:** The launches were carried out today from a static vertical launcher from Integrated Test Range (ITR), Chandipur off the coast of Odisha. The current launches were carried out for demonstration of vertical launch capability as part of its maiden launch campaign. On both occasions, the missiles intercepted the simulated targets with pinpoint accuracy. The missiles were tested for minimum and maximum range. VL-SRSAM with Weapon Control System (WCS) were deployed during the trials.

- Indigenously designed and developed by DRDO for Indian Navy, VL-SRSAM is meant for neutralizing various aerial threats at close ranges including sea-skimming targets.
  - The present trials have proved the effectiveness of the weapon system and few more trials will be conducted shortly before deployment on Indian Naval ships. Once deployed, the VL-SRSAM system will prove to be a force multiplier for the Indian Navy.
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### **1st dedicated commercial launch of PSLV-C51/Amazonia-1 Mission**

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***(Topic: Space and Technology)***

- By NSIL and ISRO
  - This ushers in a new era of Space reforms in the country. 18 co-passengers included four small satellites that showcase dynamism and innovation of our youth
- 

### **Three Patents filed by NMPB, MoA as part of sponsored research projects**

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### ***(Topic: Science and Technology)***

The *National Medicinal Plants Board* (NMPB), Ministry of AYUSH has initiated a special drive to identify the patentable projects which were / are sponsored under the ‘Research and Development Component’ of Central Sector Scheme (CSS) on “Conservation, Development and Sustainable Management of Medicinal Plants”. NMPB generally sponsors various R&D programs under CSS to both government as well as private organizations across the country.

Under these sponsored / financially supported research projects, NMPB so far identified three unique projects which are novel in nature and patentable. They are:

(1.) Bio-production of secondary metabolites from *Aegle marmelos* which is commonly known as *Bel* (R&D/TN-04/2006-07);

(2.) *In vitro* production of secondary metabolites from tree species of *Dashmoola* (10 roots used in Ayurveda) through hairy root cultures (R&D/TN-0112013-14-NMPB); and

(3.) Development of anti-cancer and anti-inflammatory agents from *Dioscoria floribunda* (R&D/UP-04/2015-16).

While the first two projects belong to the **Institute of Forest Genetics and Tree Breeding** (IFGTB), Coimbatore, the third project was carried out by **Central Institute of Medicinal and Aromatic Plants** (CIMAP), Lucknow. The CIMAP filed patent is titled as “**A synergistic polyherbal formulation exhibiting potential cancer activity.**”

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### **New platform to measure DNA modifications can have potential application in early detection of Cancer, Alzheimer’s & Parkinson’s**

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#### ***(Topic: Science and Technology)***

Scientists have developed a new technique to measure DNA modifications that can have applications in early diagnosis of multiple diseases like Cancer, Alzheimer’s, and Parkinson’s diseases.

Alteration in DNA affects their expression and functions. DNA controls cell survival through the genetic code as well as via modifications to its structure. There is a demand for techniques with very high resolution to measure such modifications of DNA structures and observe and understand the molecular mechanisms associated with it to track rare diseases.

The novel nanopore-based platform developed by the scientists can directly measure such modifications or branched DNA properties with the single-molecule resolution even with extremely low amounts of sample.

The measurement principle of the novel platform is analogous to the Archimedes principle. Individual analyte molecules are driven through a nanopore under an applied voltage, which, during translocation, results in a tiny electrical blip. Charges excluded by the analyte (supercoiled DNA) in the nanopore is directly proportional to the volume of the particle and is directly measured as the current change. This method utilizes extremely low amounts of sample and can measure DNA structural changes ranging to a few nanometers resolution in the axis perpendicular to the translocation and few tens of nanometers along the translocation axis.

Further optimization of the technique can help in the development of portable nano-bio sensors for detection and quantification of protein aggregates and cell-free DNA or nucleosomes. This may help in the early diagnosis of many diseases like Cancer, Alzheimer's, and Parkinson's diseases. Currently, researchers at RRI are also exploring applications of this method for virus detection.

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## **JNCASR Scientists develop a new molecule that could be a potential drug candidate for the treatment of Alzheimer's**

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### ***(Topic: Science and Technology)***

Scientists have developed a small molecule that disrupts the mechanism through which neurons become dysfunctional in Alzheimer's disease (AD). The molecule could be a potential drug candidate to halt or cure the leading cause of dementia (70-80%) worldwide.

In the Alzheimer's brain, abnormal levels of naturally forming protein clump together to form plaques that collect between neurons and disrupt cell function. This is caused by production and deposition of the amyloid peptide (A $\beta$ ) that accumulates in the central nervous system. The multifactorial nature of Alzheimer's disease (AD) attributed to multifaceted amyloid toxicity has kept researchers from developing effective treatment.

The detailed studies established the molecule called TGR63 as the lead candidate to rescue neuronal cells from amyloid toxicity. Remarkably, the molecule was also found to reduced amyloid burden in the cortex and hippocampus, or a complex part embedded deep into the temporal lobe, thereby reversing cognitive decline. This research has been published recently in the journal *Advanced Therapeutics*.

Currently available treatments provide only temporary relief, and there are no approved drugs that directly act on the disease mechanisms of Alzheimer's disease. Thus, there is an unmet need to develop drug candidates to halt or cure Alzheimer's disease.

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## **Way to predicting solar cycles– Kodaikanal Solar Observatory Digitized Data probes Sun's rotation over the Century**

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### ***(Topic: Space and Technology)***

Scientists have estimated how the Sun has rotated over a century from data extracted from old films and photographs that have been digitized. This estimation would help study magnetic field generated in the interior of the Sun, which causes sunspots and results in extreme situations like the historical mini-ice age on Earth (absence of sunspots). **It could also help predict solar cycles and their variations in the future.**

The Sun rotates more quickly at its equator than at its poles. Over time, the Sun's differential rotation rates cause its magnetic field to become twisted and tangled. The tangles in the magnetic field lines can produce strong localized magnetic fields. When the Sun's magnetic field gets twisted, there are lots of sunspots. The sunspots which form at the surface with an 11-year periodicity are the only route to probe the solar dynamo or solar magnetism inside the Sun and hence measure the variation in solar rotation.

The team compared the consistent digitized data with manual data of rotation taken earlier and said that they have been able to differentiate the behaviors of the bigger and smaller solar spots for the first time. Such digitized data and differentiation of bigger and smaller sun spots can improve understanding of solar magnetism and sun spots, paving the path towards predicting solar cycles in the future.

### **Prelims-oriented news**

**Location of the artificial lake which has formed in the wake of the avalanche incident in 2021:** In the upper catchment of the Rishiganga River in Chamoli District of Uttarakhand

**World's Largest Cricket Stadium With A Capacity of 1.32 Lakh Spectators:** Narendra Modi Cricket Stadium in Ahmedabad

**Second Edition of Maritime India Summit:** From 2nd to 4th March 2021 – to promote both international and domestic investment in the Ports and Maritime Sector

**Mahamrityunjaya temple in Naogaon, Assam:** World's tallest 126 feet high Shivalinga

**Borodua pilgrimage in Assam:** The birthplace of Mahapurush Shrimant Shankardev

**India hosts First Meeting of BRICS Finance and Central Bank Deputies**

- India assumed the BRICS Chairship in 2021, at a time when BRICS is celebrating its 15th anniversary. Under the theme BRICS@15: Intra-BRICS Cooperation, India's approach is focused on strengthening collaboration through Continuity, Consolidation and Consensus.

- This was the first meeting on the BRICS Financial Cooperation under India Chairship in 2021. During the meeting, India shared priorities under financial cooperation agenda and issues for discussion during 2021 such as Global Economic Outlook and Response to COVID-19, Social Infrastructure Financing and Use of Digital Technologies, New Development Bank (NDB) Activities, Fintech for SME and Financial Inclusion, BRICS Contingent Reserve Arrangement (CRA), among others.

### **New material found can efficiently convert waste heat to electricity to power small home equipment & vehicles**

- Scientists have found a new Lead (Pb) free material which can efficiently convert waste heat to power our small home equipment and automobiles.
- Thermoelectric energy conversion allows generation of electrical voltage when one end of a material is heated while keeping the other side cold. Finding an efficient material to realize this scientific principle has been a daunting task for scientists. It entails fitting in three seemingly different properties into a single material– high electrical conductivity of metals, high thermoelectric sensitivity of semiconductors, and low thermal conductivity of glasses.
- Most efficient thermoelectric materials developed by scientists so far use Lead (Pb) as a major constituent element, restricting their use for mass-market applications.

### **PM-Kisan scheme completes two years**

- The scheme was formally launched on February 24, 2019, with the aim to augment the income of the farmers by providing income support to all landholding farmers' families across the country.
- Under the scheme, an amount of 6000 rupees per year is transferred in three instalments of 2000 rupees directly into the bank accounts of the farmers. Landholding farmers' families from both urban and rural areas can apply for the scheme. However, farmers who pay income tax, institutional landowners and retired pensioners with monthly pensions over 10,000 are not eligible for the scheme.
- Special provisions have been made in the scheme for the north-eastern states where land ownership rights are community-based and in Jharkhand, which does not have updated land records and restrictions on the transfer of land.

### **Global Bio-India 2nd edition**

The Biotechnology sector has emerged as an integral part of the Indian economy over the past few decades, and the Government of India is playing a transformative and catalytic role in building a USD 150 billion bio-economy by 2025. The sector is recognized as one of the key drivers for India to achieve its USD 5 trillion target.

- To showcase the strength and opportunities of the India's biotechnology sector at national level and to the global community, the second edition of Global Bio-India will be organised from 1-3 March 2021 on digital platform.

- **Theme for this year** is “Transforming lives” and tag line “Biosciences to Bioeconomy”. Global Bio-India is one of the largest biotechnology stakeholders’ conglomerates that is being co-organised by the Department of Biotechnology, Ministry of Science & Technology, Government of India along with its Public Sector Undertaking, Biotechnology Industry Research Assistance Council (BIRAC) in partnership with industry association Confederation of Indian Industry (CII), Association of Biotechnology Led Enterprises (ABLE) and Invest India.
- Global Bio-India 2021 is expected to have representatives from 50+ countries with Switzerland being the partner country and Karnataka as its state partner
- Global Bio-India is expected to facilitate recognition of India as emerging Innovation Hub and Bio-manufacturing Hub for the world. It will facilitate scaling of India’s Biotech innovation ecosystem, investments, global networking and collaborations, Make In India for the Atmanirbhar Bharat.

### **Clinical Breast Examination: A Woman-Friendly Alternative to Mammography**

A 20-year landmark study by Tata Memorial Hospital(TMC) in Mumbai has proved that clinical breast examination is a woman friendly and cost-effective alternative to mammography to check for breast cancer. If implemented as a breast screening method in India, CBE would save 15,000 deaths from breast cancer each year, and 40,000 lives globally in low and middle income countries (LMICs). All this at a fraction of screening cost, thereby reducing stress on the overburdened healthcare systems.

Breast cancer is the most common cancer among women globally and in India. The incidence of breast cancer is increasing in all countries of the world, but particularly so in low and middle income countries (LMICs). In Mumbai, the incidence of breast cancer has risen by nearly 40% between 1992 and 2016 and breast cancer has become the leading cause of death from cancer in India.

Breast cancers in LMICs are frequently detected in advanced stages, and consequently, more than half the global deaths from breast cancer occur in these countries.

Mammography is the standard screening technique for early detection of breast cancer which is widely used in the Western world. Although intuitively appealing, self-breast examination has not been found to be effective in reducing mortality from breast cancer. The study by TMC establishes Clinical Breast Examination as an effective technique which suits LMICs as it is highly affordable in comparison to mammography.

The use of mammography for screening for breast cancer requires expensive machinery, highly trained radiologists and radiographers and a high level of quality control. In India the cost of a digital mammography machine is approximately Rs. 3 crores, and each examination cost around Rs. 2000. Clearly India cannot afford mass screening by mammography for all its women. CBE on the other hand, is low-cost, technically simple, woman-friendly and a touch-sensitive procedure, without the discomfort of compression or the hazard of radiation.

### **TB Free India by 2025:**

While the National Tuberculosis Elimination Programme continues to augment efforts to further strengthen TB management and service delivery, it is only when the wider population uses the essence of democracy and the spirit of Jan Andolan through generation of awareness, encouragement of health care seeking behaviour within their communities, and de-stigmatization of TB, would the movement against the disease be a success.

**National Technical Support Unit (NTSU)** is proposed to be set up in collaboration with development partners to support the Government of India's efforts, both nationally and in states, to help strengthen on-ground program delivery by employing various advocacy and communications approaches to generate demand and create awareness on the services available under the TB program.

**Tuberculosis is a social disease** because of following reasons

- Due to overcrowding and malnutrition, it **disproportionately affects the poor** and the marginalised.
- The stigma and myths associated with this disease lead to **underreporting** and under-diagnosis.
- The long-drawn multi-drug treatment leads to **poor compliance and drug-resistance**, which hamper recovery.
- **Complications** increase with a pre-existing illness like diabetes or co-infection with HIV.
- Finally, the chronic nature of the disease and propensity to damage multiple organs **increase mortality risk**.

The lessons learned during the COVID-19 battle can do a lot in controlling TB i.e. Community driven efforts can help government's target of TB-free India by 2025

- Since TB spreads through droplets of infected persons, **physical distancing** can reduce disease transmission.
- Patients with **TB must wear a mask** to prevent the spread of infection, and persons in the patient's regular contact should wear a mask for self-protection.
- **Early diagnosis and treatment** are the keys to success. One should use new diagnostic techniques that gives rapid and ultraprecise results compared to the traditional sputum test.
- Finally, **instant case notification** helps in better case tracking and contact monitoring.
- The fight against COVID-19 has led to increased **awareness of respiratory infections**, which may help remove the stigma associated with TB.
- India's efforts to contain the coronavirus succeeded due to improved **coordination among central and state governments** and innovative media campaigns which can be replicated for TB

**Value Addition**

**Nikshay Poshan Yojana (NPY)** is a direct benefit transfer (DBT) scheme for nutritional support to TB patients rolled out in April 2018 by Ministry of Health and Family Welfare.

- Under the Yojana, **financial incentive of Rs.500/month** is to be provided for each notified TB patient (registered on NIKSHAY portal) for duration during which the patient is on anti-TB treatment.
- NPY is a **Centrally Sponsored Scheme** under National Health Mission
- **‘TB Harega Desh Jeetega’ Campaign** was launched in Sep 2019 consisting of three pillars – clinical approach, public health component and active community participation – as a part of strategy to eliminate TB by 2025

**Swachh Iconic Places** – Ministry of Jal Shakti announces selection of 12 sites for transforming them into ‘Swachh Tourist Destinations’ under Phase-IV

1. **Ajanta Caves**, Maharashtra
2. **Sanchi Stupa**, Madhya Pradesh
3. **Kumbhalgarh Fort**, Rajasthan
4. **Jaisalmer Fort**, Rajasthan
5. **Ramdevra**, Jaisalmer, Rajasthan
6. **Golconda Fort**, Hyderabad, Telangana
7. **Sun Temple**, Konark, Odisha
8. **Rock Garden**, Chandigarh
9. **Dal Lake**, Srinagar, Jammu & Kashmir
10. **Banke Bihari Temple**, Mathura, Uttar Pradesh
11. **Agra Fort**, Agra, Uttar Pradesh
12. **Kalighat Temple**, West Bengal

The initiative aims at enhancing the experience of both domestic and foreign visitors by improving the sanitation and cleanliness standards at and around the sites. The objective of SIP is to achieve a distinctly higher level of Sanitation/Cleanliness at these places, especially on the peripheries and in approach areas. This project is being coordinated by the Department of Drinking Water and Sanitation (DDWS), Ministry of Jal Shakti in association with the Ministry of Housing and Urban Affairs (MoHUA), Ministry of Tourism, Ministry of Culture and the concerned State/UT governments.

**Guru Ravidas:** A North Indian mystic poet-sant of the bhakti movement during the 14th to 16th century CE. Venerated as a guru (teacher) in the region of Punjab, Uttar Pradesh, Rajasthan, Maharashtra and Madhya Pradesh the devotional songs of Ravidas made a lasting impact upon the bhakti movement.

He was a poet-saint, social reformer and a spiritual figure. He is considered as the founder of 21st-century Ravidassia religion, by a group who previously were associated with Sikhism. He gave the people a message of peace, harmony and fraternity. He made people aware of the evils of discrimination and urged overcoming them.

**Bir Chilaray:**



- The younger brother of Nara Narayan, the king of the Kamata Kingdom in the 16th century. He was Nara Narayan's commander-in-chief and got his name Chilarai because, as a general, he executed troop movements that were as fast as a chila.
- Chilaray was the third son of Maharaja Biswa Singha (1523–1554 A.D.).
- It was only due to his Royal Patronage that **Sankardeva** was able to establish **the Ek Saran Naam Dharma in Assam** and bring about his cultural renaissance.

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# PRESS INFORMATION BUREAU (PIB) IAS UPSC – 1st March to 6th March – 2021

 [iasbaba.com/2021/03/press-information-bureau-pib-ias-upsc-1st-march-to-6th-march-2021](https://iasbaba.com/2021/03/press-information-bureau-pib-ias-upsc-1st-march-to-6th-march-2021)

Date March 10, 2021

## ARCHIVES

### GS-2

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### **States exhibiting surge in Daily New COVID cases and High Active Caseload urged to Return to Fundamentals of “Test, Track and Treat”**

***(Topic: Government policies to fight COVID-19)***

States were specifically asked to:

- Continue with the effective strategy of ‘Test Track & Treat’ that had yielded rich dividends at the height of the pandemic.
- Improve overall testing in districts reporting reduction in testing
- Increase share of RT-PCR tests in districts dependent on high levels of antigen testing.
- Refocus on surveillance and stringent containment of those areas in selected districts which are seeing cluster of cases.
- Carry out an average close contact tracing of minimum of 20 persons per positive case.
- Focus on clinical management in districts reporting higher deaths.

- Actuate their health infrastructure to provide effective clinical management to all the patients as a surge in cases also affects the case fatality rate in those districts.
- Accelerate vaccination for priority population groups in districts reporting higher cases.
- Make optimal use of the available vaccine doses and focus on critical districts.
- To collaborate with the private hospitals to open up vaccination time-table for a minimum of 15 days and maximum of 28 days at a time.
- Promote COVID-appropriate behaviour through communication and enforcement.

Stress was laid on prompt isolation and on medical supervision of those active cases presently in home isolation for early identification of progressive deterioration of the disease. The States were also asked actively watch out for super-spreading events and share their best practices in breaking the chain of transmission.

## **Cabinet approves**

**Memorandum of Understanding between India and France on Renewable Energy Cooperation:** The objective of the MoU is to establish the basis for promotion of bilateral cooperation in the field of new and renewable energy on the basis of mutual benefit, equality and reciprocity. It covers technologies relating to solar, wind, hydrogen and biomass energy.

The MoU entails:

- Exchange and training of scientific and technical personnel;
- Exchange of scientific and technological information and data;
- Organization of workshops and seminars; transfer of equipment, know-how and technology;
- Development of joint research and technological projects

This MoU will help in the development of technological know-how in the field of Renewable Energy and thereby aid the process of attaining the ambitious target of 450 GW of installed Renewable Energy capacity by 2030.

**Memorandum of Understanding between India and Fiji for cooperation in the field of Agriculture and Allied Sectors:** The MoU between India and Fiji provides for cooperation in the following areas:

- Exchange of research personnel, scientific experts, specialists, and technical trainees;
- Enhancement and transfer of technology;
- Development of infrastructure for agriculture development;
- Development of human resources through training of officers and farmers by conducting seminars and workshops;
- Promotion of joint ventures between private sectors of both countries;
- Promotion of investment in marketing and value addition/downstream processing of agricultural commodities;
- Promote capacity development in all areas of agriculture;

- Promotion of direct trade of agriculture products through market access;
- Joint planning and development of research proposals and execution of research projects and programmes;
- Establishment of Indo – Fiji Working Group for dealing phytosanitary issues, and any other form of cooperation which will be mutually agreed by the Parties.

Under the MoU, a Joint Working Group (JWG) will be constituted to set down procedures and plan and recommend programs of cooperation towards achieving its aims through the Executing agencies of the two countries. The JWG will hold its meeting alternately in India and Fiji once in every two year.

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## **India and Norway agree to conduct marine spatial planning in Lakshadweep and Puducherry**

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### ***(Topic: India and its relations with Norway)***

India and Norway have agreed to jointly work in the area of marine spatial planning in the oceanic space for the next five years. In this regard, the first project steering committee meeting with representatives from both the countries was successfully conducted virtually recently, after which the two countries have charted out a plan to ensure that human activities at sea take place in an efficient, safe, and sustainable manner in areas such as energy, transportation, fisheries, aquaculture, tourism etc. across multiple sectors. This is a part of the **Indo-Norway Integrated Ocean Initiative** under the Memorandum of Understanding signed between the two countries in 2019.

**Lakshadweep and Puducherry** have been identified as pilot sites for the project.

The two countries have decided to extend support for sustainable ocean resources utilisation to advance economic and social development in coastal areas. The initiative known as Marine Spatial Planning (MSP) will be implemented by the Ministry of Earth Sciences (MoES) through National Centre for Coastal Research (NCCR) for India. In its primary phase, NCCR will develop a marine spatial planning framework for Puducherry and Lakshadweep. These sites have been chosen for the pilot project in view of their setups with unique opportunities for multiple sectors (such as industries, fisheries, and tourism) to flourish. The Government of India's initial investments for undertaking the studies and planning are estimated to be around INR 8-10 crores per annum. In the future, marine spatial planning framework of these two environmentally critical areas can be replicated to other coastal regions of the country. Notably, the World Bank and the United Nations Environment Programme (UNEP) have expressed interest in supporting MoES in conducting MSP, a societal-beneficial initiative for India's coastal regions.

The MSP initiative will be implemented by MoES and the Norwegian Environment Agency through the Ministry of Foreign Affairs, Norway. Earlier, NCCR had developed coastal management plans for Chennai, Goa, and Gulf of Kachchh which proved very successful. Now, the MSP initiative will aid development of multiple economic sectors and stakeholders in greater number of coastal areas of the country.

The Government of India's vision of New India by 2030 highlights blue economy as one of the ten core dimensions of growth. MSP is globally identified as a tool for sustainable and integrated ocean management. It is a noted area for work in India's (draft) Blue Economic Policy being developed by MoES.

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## India – Sweden Virtual Summit

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### *(Topic: India and its relations with Sweden)*

India expressed solidarity with the people of Sweden in the wake of the violent attack on 3rd March and prayed for early recovery of the injured.

Both the leaders underlined that the longstanding close relations between India and Sweden were based on shared values of democracy, rule of law, pluralism, equality, freedom of speech, and respect for human rights. They reaffirmed their strong commitment to work for multilateralism, rules-based international order, counter terrorism and peace and security. They also acknowledged the growing salience of India's partnership with the European Union and EU countries.

The two leaders reviewed the extensive ongoing engagement between India and Sweden, and expressed satisfaction at the implementation of the Joint Action Plan and Joint Innovation Partnership agreed during Prime Minister Modi's visit to Sweden in 2018. They explored avenues of further diversifying the themes under the rubric of these partnerships.

**Sweden is joining the International Solar Alliance (ISA).** The leaders also noted the growing membership of the **India-Sweden joint initiative – the Leadership Group on Industry Transition (LeadIT)** that was launched during the UN Climate Action Summit in September 2019 in New York.

The two leaders also discussed the Covid-19 situation including the vaccination drive and stressed the need for vaccine equity by providing urgent and affordable access to vaccines across all nations.

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## GS-3

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### Indigenously designed and developed 'Made in India' spectrograph

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#### *(Topic: Indian economy)*

Indian Scientists have indigenously designed and developed a low-cost optical spectrograph that can **locate sources of faint light from distant quasars and galaxies** in a very young universe, regions around supermassive black-holes around the galaxies, and cosmic explosions.

Such spectroscopes were so far imported from abroad involved high costs. The ‘Made in India’ optical spectrograph named as **Aries-Devasthal Faint Object Spectrograph & Camera (ADFOSC)**, indigenously designed and developed by Aryabhata Research Institute of observational sciences (ARIES), Nainital, an autonomous institute of Department of Science and Technology (DST), Government of India, is about 2.5 times less costly compared to the imported ones and can locate sources of light with a photon-rate as low as about 1 photon per second.

The spectroscope, the largest of its kind among the existing astronomical spectrographs in the country, has been successfully commissioned on the 3.6-m **Devasthal Optical Telescope (DOT)**, **the largest in the country and in Asia**, near Nainital Uttarakhand.

- This instrument, a backbone of the 3.6-m DOT for observations of extremely faint celestial sources, uses a complex arrangement of several lenses made of special glasses, polished to better than 5-nanometer smoothness to produce sharp images of the celestial sky.
- Photons coming from distant celestial sources, collected by the telescope, are sorted into different colors by the spectrograph and are finally converted into electronic recordable signals using an in-house developed Charge-Coupled Device (CCD) camera cooled to an extremely low temperature of -120 oC. The total cost of this instrument is nearly Rs. 4 Crore.

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## FDI in India

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### *(Topic: Indian economy)*

Foreign Direct Investment (FDI) is a major driver of economic growth and an important source of non-debt finance for the economic development of India. It has been the endeavor of the Government to put in place an enabling and investor friendly FDI policy. The intent all this while has been to make the FDI policy more investor friendly and remove the policy bottlenecks that have been hindering the investment inflows into the country. The steps taken in this direction during the last six and a half years have borne fruit, as is evident from the ever-increasing volumes of FDI inflows being received into the country. Continuing on the path of FDI liberalization and simplification, Government has carried out FDI reforms across various sectors.

Measures taken by the Government on the fronts of FDI policy reforms, investment facilitation and ease of doing business have resulted in increased FDI inflows into the country. The following trends in India’s Foreign Direct Investment are an endorsement of its status as a preferred investment destination amongst global investors:

- India has attracted total FDI inflow of US\$ 67.54 billion during April to December 2020. It is the highest ever for the first ninth months of a financial year and 22% higher as compared to the first ninth months of 2019-20 (US\$ 55.14 billion).

- FDI equity inflow grew by 40% in the first 9 months of F.Y. 2020-21 (US\$ 51.47 billion) compared to the year ago period (US\$ 36.77 billion).
- FDI inflow increased by 37% in 3rd Quarter of 2020-21 (US\$ 26.16 billion) compared to 3rd quarter of 2019-20 (US\$ 19.09 billion).
- FDI inflow showed positive growth of 24% in the month of December, 2020 (US\$ 9.22 billion) compared to December, 2019 (US\$ 7.46 billion)

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## DRDO conducts successful flight test of Solid Fuel Ducted Ramjet

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### *(Topic: Defence)*

- Successful demonstration of Solid Fuel based Ducted Ramjet technology has provided DRDO with a technological advantage which will **enable it to develop long range air-to-air missiles**. At present, such technology is available only with a handful of countries in the world.
- During the test, air launch scenario was simulated using a booster motor. Subsequently, the nozzle-less booster accelerated it to the required Mach number for Ramjet operation.
- The performance of the missile was monitored using the data captured by Electro Optical, Radar and Telemetry instruments deployed by ITR and confirmed successful demonstration of the mission objectives.

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## Scientists develop high-resolution platform to detect the effect of prolonged alcohol exposure on Red Blood Cells

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### *(Topic: Science and Technology)*

Scientists have custom-made a platform to **detect the effect of prolonged alcohol exposure on Red Blood Cells (RBC)** through high-resolution measurements of their size. The high-resolution platform that shows the reduction in size of RBCs on alcohol exposure can be tuned for a point-of-care screening of multiple conditions that alter the size and count of RBCs in blood.

Although it is known that alcohol affects RBCs, the exact physiological changes are very subtle and difficult to measure. In order to overcome this challenge, scientists from Raman Research Institute (RRI), have developed custom-made **electro-fluidic platform** that can detect the change by measuring the cell size in enhanced resolution.

The device made in RRI relies on the **resistive pulse sensing principle**.

- The team first developed techniques for making tiny micron (1/1000th of a millimetre) sized holes or micro-pores at the tip of a glass capillary with careful fabrication, flame polishing, and image verification.
- Cells passing through the pore created very tiny electrical pulses, which give direct and most sensitive information of cell count and volume.

- These results may also be used to explain the lack of oxygen-carrying capability of RBC under alcohol exposure leading to blurred vision, muscular in coordination, and altered mental states from alcohol abuse.

## **Prelims oriented News**

**National Science Day:** 1st March

**World Wildlife Day:** 3rd March

**Chabahar Day:** 4th March

### **First export consignments of ‘red rice’ from Assam to the USA flagged off:**

Iron rich ‘red rice’ is grown in Brahmaputra valley of Assam, without the use of any chemical fertilizer. The rice variety is referred as ‘Bao-dhaan’, which is an integral part of the Assamese food.

**The Nag River Pollution Abatement Project:** The project, approved under the National River Conservation Plan, will be implemented by the National River Conservation Directorate, NRCD. It will reduce the pollution level in terms of untreated sewage, flowing solid waste and other impurities flowing into the Nag river and its tributaries.

**The tribals of Jawadhu Hills:** Situated in the Tiruvannamalai district of Tamil Nadu, Jawadhu hills is an extension of the Eastern Ghats.

- The Malayali tribal people constitute 92.60% of the total population in this block and their mainstay is through the non-timber forest produce and a variety of trees grown on this patta land such as tamarind, jackfruit, coconut, lemon and plantain and gooseberry.
- The Jawadhu Hills producer company has been formed with an aim to improve the quality of life and social status of tribals involved. This is an example of how the Van Dhan tribal start-up has been successful in improving the livelihoods and incomes of the tribal people across the country.

### **India’s first Grade- Separated Urban Expressway:** Dwarka Expressway

- Being constructed under the Bharatmala Project
- The first instance of a project where Tree Plantation of approximately 12,000 trees has been undertaken, keeping protection of the environment in view
- Will have longest (3.6 kilometre) and widest (8 lane) Urban Road Tunnel in India
- The project’s road network will also comprise of four levels, i.e., tunnel / underpass, at-grade road, elevated flyover and flyover above flyover.
- There will be a fully automated tolling system with 22 lanes toll plaza.
- The entire project will be equipped with Intelligent Transportation System (ITS).
- The project has a total estimated consumption of two lakh MT of steel, which is 30 times of that of the Eiffel Tower. The total estimated consumption of 20 lakh Cum of Concrete is six times of the Burj Khalifa building.



## **World Hearing Day: 3rd March**

- World Report on Hearing by WHO
- 2% of India's population, mainly children, suffer from the condition of Otitis Media, other problems like hearing loss due to high noise levels at workplaces and on the roads, hearing loss due to the use of ototoxic medicines and chemicals, the dangers of loud music and unsafe listening to people's hearing health (with over 750 million smart phone users in India).
- The study showed that the disabling hearing loss affected 2.9% of the population and was noted to effect communication, education and work. The rural population had a far greater prevalence of hearing loss. The prevalence of total hearing loss, unilateral & bilateral was found to be as high as 9.93%. The geriatric population accounted for 40.5% of all hearing loss and 72.4% of all disabling hearing loss. The study also made a major contribution in identifying the risk factors associated with Sensory Neural Hearing Loss (SNHL): Smokeless Tobacco consumption, Heavy smoking, Leisure and work-related noise, and also excessive Residential Noise, are all noted as risk factors associated with SNHL.
- **India's National Programme for Prevention and Control of Deafness** to the audience that targets 6% of the population who have disabling hearing loss and require interventions. The program (launched in 2006) focuses on preventing hearing loss, especially that which is caused by ear infections and noise; early identification of deaf babies and hard of hearing persons; timely provision of suitable interventions and services like medicines, surgery, hearing devices and rehabilitation. More than 30 thousand free-of-cost ENT surgeries and around 24 thousand hearing aids were provided under the program in the year 2019-20.
- The government plans to further strengthen our work on ear and hearing care based on the recommendations of the report:
  - By improving services at community and primary levels through training of health workers for task sharing, in line with the strategies outlined in the report.
  - Expanding access to affordable hearing technologies for all those in need.
  - Using the power of Information Technology (IT) to raise awareness among our youth on safe listening as a means of hearing loss prevention.

## **India Telecom 2021- a platform for convergence of technologies and business exchange**

- India Telecom 2021 is a platform for convergence of technologies and business exchange. This mega event has become 'a must attend' mega event for Telecom and IT Stakeholders as it encapsulates strategies and learning that transcend the two most important present day industries having potential of unlocking huge demand of ICT services across multiple domains.
- TEPC (Telecom Equipment Export Promotion Council) has organized India Telecom 2021' under Market Access Initiative Scheme (MAI) of Department of Commerce, Government of India and with support of Department of Telecommunications & Ministry of External Affairs.

- This event is of great significance to Indian exporters and has a very high impact. India is a fast-growing telecom market fueled by data growth. This local demand is a driver of domestic telecom companies to create innovative, high-quality products and solutions that can serve the needs of both India and emerging markets across the globe. In addition to offering state of the art telecom products and services, Indian companies are open to partner and provide skill development and training to our overseas buyers.
- **About TEPC:** TEPC has been set up by the Ministry of Commerce & Industry and Ministry of Communications, Government of India to promote and develop of Export of Telecom Equipment and Services. The council undertakes several activities aimed at exports promotion such as Commissioning of Studies to find potential markets, holding of National/International Seminars and facilitating participation of exporters in various overseas exhibitions. The council also disseminates trade related data to its members. The council makes various recommendations to the Government for making necessary changes in various policies and procedures for promotion of Exports and Services.

**MoRTH releases Rating mechanism for National Highways:** The Ministry of Road Transport and Highways has released the ratings for 18,668 km of completed 4/6 lane NH stretches covering 343 toll plazas. This has been done by NHAI under MoRTH, which has taken initiative to improve its accountability towards road users, who pay user fee for use of developed National Highways. This initiative has been taken as per vision of improving the quality of public services. The fundamental objective of highway rating is “Minimum time with maximum safety in stress free environment” from highway users’ perspective.

- Each toll plaza of highway is judged based on three major criteria viz. Efficiency, Safety and User Services. These criteria are further divided into a total of 39 parameters which include average speed, road condition, facility for public like VUP/ PUP/ FOB, service road, delay at toll plaza, accidents, incident response time, wayside amenities, general cleanliness, etc.
- The Ministry has also begun real-time monitoring of toll plazas across the country. It is a simple help to improve traffic congestion problem at toll plazas/ city roads/highways by using central monitoring system along with bundle of analytics and quick decision-making outputs. This is eventually likely to facilitate saving the Commute Time, Improve Customer Experience, Save Fuel Wastage Cost and Reduce Carbon Footprint. It uses several technologies like Satellite Imagery, GIS, Remote Sensing along with a proprietary algorithm to remotely monitor the congestion status of the roads.

### **First anniversary of the Central Sector Scheme on “Formation & Promotion of 10,000 Farmer Producer Organizations (FPOs)”**

- Inaugurated professional training programmes designed and developed for CEOs, Board of Directors, Accountants of FPOs

- There are well-defined training structures in the scheme and the institutions like Bankers Institute of Rural Development (BIRD), Lucknow and Laxmanrao Inamdar National Academy for Co-operative Research & Development (LINAC), Gurugram have been chosen as the lead training institutes for capacity development & training of FPOs. Training & skill development modules have been developed to further strengthen FPOs.
- More than 2200 FPOs produce clusters have been allocated for the formation of FPOs in the current year, of which 100 FPOs for specialized Organic produce, 100 FPOs from Oilseeds & 50 commodity-specific FPOs with value chain development will be formed. In addition to SFAC, NABARD & NCDC, 06 more implementing agencies have been approved for the formation and promotion of FPOs.
- FPOs will be provided financial assistance up to Rs 18.00 lakh per FPO for a period of 03 years. In addition to this, provision has been made for matching equity grant up to Rs. 2,000 per farmer member of FPO with a limit of Rs. 15.00 lakh per FPO and a credit guarantee facility up to Rs. 2 crores of project loan per FPO from the eligible lending institution to ensure institutional credit accessibility to FPOs.
- This formation of 10,000 FPOs scheme will promote the selling of farmers produce from the farm gate of farmers thereby enhanced farmers' income. This will shorten the supply chain and accordingly marketing cost will get reduced resulting in better income for farmers. It will accelerate more investment in marketing and value addition infrastructure near to farm gate creating more employment opportunities for rural youth.

**MoHUA Launches Field Assessment of Swachh Survekshan 2021:** The sixth edition of the annual cleanliness survey conducted by the Government of India

The Swachh Survekshan framework is redesigned innovatively every year, to ensure that the process becomes more robust. Keeping in mind the Ministry's efforts towards ensuring sustainability of the sanitation value chain, the SS 2021 indicators focus on parameters pertaining to wastewater treatment and reuse along with faecal sludge. Similarly, the crucial issues of legacy waste management and remediation of landfills have also been brought to the fore in this edition of Survekshan.

Since its launch in 2014, Swachh Bharat Mission-Urban (SBM-U) has made significant progress in the area of both sanitation and solid waste management. 4360 Urban ULBs have been declared ODF, 2158 cities certified ODF+ and 551 cities certified ODF++. Moreover, 66 lakhs individual household toilets and over 6 lakhs community/ public toilets have been constructed/ or are under construction. Additionally, nearly 60,000 toilets across 2900+ cities have been made live on Google Maps. In the area of solid waste management, 97% of wards have 100% door-to door collection while 68% of the total waste generated is being processed. A total of six cities have been certified as 5 Star, 86 as 3 star and 65 as 1 star under the Star Rating Protocol for Garbage Free Cities.

The second phase of SBM-U for a period of 5 years (2021-26) has recently been announced in the union budget of 2021. The next phase of the Mission will focus extensively on aspects of sustainable sanitation including faecal sludge and wastewater management, along with holistic solid waste management with a focus on curbing and

ultimately eliminating the use of single-use plastic (SUP), reducing air pollution through effective management of construction & demolition waste, and reducing soil pollution through remediation of legacy dumpsites.

### **Atal Innovation Mission Partners with MathWorks to strengthen the Deep-tech startup ecosystem of India**

- **MathWorks-** The developer of mathematical computing software for scientists and engineers
- Under this partnership, startups supported by AIM, will get access to steps of the art MathWorks tools (including MATLAB and Simulink), engineering support, online trainings, access to MATLAB community, and opportunities for developing awareness of the startup products through their domestic and global reach. The benefits are aimed at fostering innovation and accelerating product development at these early-stage companies.

### **Cultivation and processing of aromatic plants doubles incomes of farmers in Himachal**

- Farmers in the Chamba district of Himachal Pradesh, keen for new livelihood options to supplement their income from traditional crops like maize, paddy, and wheat, have found a new lease of life.
- Cultivation of aromatic plants has given them additional income. They have extracted essential oil from the improved variety of wild marigold (*Tagetes minuta*) that has been introduced, and the profit from wild marigold oil has doubled the income of farmers as compared to traditional maize, wheat and paddy crops.

In another initiative, farmers have **improved pollination by adopting mud hive beekeeping technology** which has enhanced apple production resulting in an increase in the income of apple growers 1.25 times.

**Mud Hive Technology** is a combination of wall hive & wooden hive technology, with a habitat like wall hive. It has inbuilt provision for putting frames inside the mud hive and more favorable conditions, especially temperature for bees throughout the year as compared to wooden hives.

- The technology has brought about better colony growth & less swarming as compared to earlier used wooden boxes because of the favourable conditions they created. Introduction of indigenous bees, which can survive better in the apple growing areas, to replace the Italian bees through this technology has helped increase the average productivity of apple orchards by around 25 percent.
- In existing mud hives, provisions for easy cleaning inside mud hive were introduced by putting aluminium sheets at the base of mud hive.
- This sheet is sealed with cow dung paste and can be removed for cleaning without opening the mud hive.
- The rooftop of mud hive was also made up of stone slate, which gives better protection and maintains favourable temperature inside mud hive.

- The technology has also helped in the extraction of honey in hygienic manner using honey extractors as in wooden boxes and introduced better management practices, such as feeding, inspection, union, and division of colonies as compared to traditional wall hives.

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# PRESS INFORMATION BUREAU (PIB) IAS UPSC – 7th March to 14th March – 2021

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Date March 17, 2021

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## Preservation and Documentation of Threatened Tribal Languages

### *(Topic: Indian tribes)*

Under the scheme of ‘**Support to Tribal Research Institute (TRIs)**, Ministry of Tribal Affairs extends support to TRIs for carrying out various research & documentation activities including programs for documentation of tribal languages, dialects, art, culture, dance, music and development of bilingual Primers. Accordingly, TRIs are conducting documentation and preservation of endangered tribal languages through preparation of primers, dictionaries and organization of cultural programmes.

**Mother Tongue Based Multi-Lingual Education (MTBMLE)**, an innovative pedagogic initiative which plays a key role in preserving tribal languages is adopted in Andhra Pradesh. This approach bridges gap between home and school languages which enable better learning.

Further, under the component “**Financial Assistance for support to Centres of Excellence**” of the scheme “**Tribal Festival, Research, information and Mass Education**“, financial assistance is provided to reputed Institution for carrying out

research study programmes including documentation of tribal languages. In this regard, Ministry has sanctioned projects to Bhasha Research and Publication Centre during 2018-19 and 2019-20 which inter-alia covered activity of identification and documentation of threatened/dying languages. The organization has carried out documentation of Korku, Nihali, Kolami, Vadi, Halpati, Dungra Bhili, Dhavadi, Dhatti, Thali, Nahal and Seheriya languages.

The Ministry has also recently developed a **digital document repository** ([repository.tribal.gov.in](http://repository.tribal.gov.in)) where TRIs have now started uploading all the activities, document, research reports, publications, which is available in public domain.

## **International Women Day**

### ***A. Contribution of Women Farmers is pivotal in making Indian Agriculture Atmanirbhar***

Women are the backbone of the rural economy, especially in developing countries. They make up almost half of the world's farmers, and over the last few decades, they have broadened their involvement in agriculture. The number of female-headed households has also increased as more men have migrated to cities. As the primary caregivers to families and communities, women provide food and nutrition; they are the human link between the farm and the table.

India's agricultural industry, which employs 80 to 100 million women, cannot survive without their labour. From preparing the land, selecting seeds, preparing and sowing to transplanting the seedlings, applying manure/fertilisers/pesticides and then harvesting, winnowing and threshing, women work harder and longer than male farmers. Despite their hard labour in the field, women are not officially counted as farmers, and are either labelled "agricultural labourers" or "cultivators".

Agriculture can be an important engine of growth and poverty reduction. But the sector is underperforming in many countries in part because women, who are often a crucial resource in agriculture and the rural economy, face constraints that reduce their productivity.

## **Critical Issues**

**Women and unpaid household responsibilities:** Women are generally less able than men to participate in economic opportunities because they face a work burden that men do not. In most societies, women are responsible for most of the household and child-rearing activities as well rearing of small livestock, although norms differ by culture and over time. This additional work burden is unpaid and limits women's capacity to engage in income-earning activities, which often require a minimum fixed time before being profitable. Furthermore, the nature of tasks, such as caring for children and elderly household members, requires women to stay near the home, thus limiting options to work for a wage.

**Gender differences within Agriculture market:** Intra-household inequality can also weaken a woman's position also outside of the home (Kapadia, 1993 and 1995). Women are over-represented in jobs characterized by low wages, high job insecurity and generally poor labour standards. When women have limited decision-making ability within the household or low access to resources and household income, they are more likely to accept lower wages. Kantor (2008) notes that, for most women in northern India, labour market participation is a survival strategy for the household, not a means of improving standards of living or voice in the household.

**Lack of ownership of land:** As many as 87 per cent of women do not own their land; only 12.7 per cent of them do. There are two primary reasons for the alarmingly low number: One, land being a state subject is not governed by the constitution under a uniform law that applies equally to all citizens but rather is governed by personal religious laws, which tend to discriminate against women when it comes to land inheritance. Second, the cultural aspect of the deep-rooted biases that hinder women's ownership of land in patriarchal societies cannot be discounted.

### **Women: Change Agents**

As the global community works toward achieving the Sustainable Development Goals (SDGs) — among them, SDG2, which aims to end hunger and malnutrition by 2030 — women can be the key agents of change in agriculture, nutrition and rural development. With better access to information, training, and technology, women can alter food production and consumption so that land and resources are used sustainably.

### **The Way Forward**

**Gender-specific interventions for higher productivity:** With growing rural to urban migration by men, there is 'feminisation' of agriculture sector, with increasing number of women in multiple roles as cultivators, entrepreneurs, and labourers. Women play a significant and crucial role in agricultural development and allied fields "is a fact long taken for granted."

- Women farmers should have enhanced access to resources like land, water, credit, technology and training which warrants critical analysis in the context of India.
- The entitlements of women farmers will be the key to improve agriculture productivity. The differential access of women to resources like land, credit, water, seeds and markets needs to be addressed.
- Focus on women self-help group (SHG) to connect them to micro-credit through capacity building activities and to provide information and ensuring their representation in different decision-making bodies.
- An 'inclusive transformative agricultural policy' should aim at gender-specific interventions to raise productivity of small farm holdings, integrate women as active agents in rural transformation, and engage men and women in extension services with gender expertise.



- An increased work burden with lower compensation is a key factor responsible for their marginalisation. It is important to have gender-friendly tools and machinery for various farm operations. Most farm machinery is difficult for women to operate. Manufacturers should be incentivised to come up with better solutions. Farm machinery banks and custom hiring centres promoted by many State governments can be roped in to provide subsidised rental services to women farmers.
- Equalising access to productive resources for female and male farmers could increase agricultural output in developing countries by as much as 2.5% to 4%. Krishi Vigyan Kendras in every district can be assigned an additional task to educate and train women farmers about innovative technology along with extension services.
- Providing women with access to secure land is key to incentivising the majority of India's women farmers. This, coupled with the need to make investments to improve harvests, will result in increased productivity and improve household food security and nutrition. Land-owning women's offspring thus receive better nourishment and have better health indicators. Land-owning mothers also tend to invest in their children's education. Ultimately, this is a win-win situation all around — for the farmer, her family and the larger ecosystem. With security of tenure, female farmers should be provided with the three critical driving factors — the incentive, the security, as well as the opportunity — to invest in the land they harvest. Security of land tenure also presents advantages for landlords by removing the fear of losing their land ownership.

## **Refer: Women Farmers**

### ***B. Women and Wildlife Conservation***

Gender is a key component in shaping attitudes about conservation, and lack of attention to gender differences in perceptions can work against the aims of community-based conservation actions and initiatives. Women play an integral role in conservation, with countless pioneering female conservationists working globally to save endangered wildlife. Women need to be equally and actively involved in processes to conserve and sustainably use biodiversity because they play critical roles as primary land managers and resource users, and they face disproportionate impacts both from biodiversity loss and gender-blind conservation measures.

Beyond equity, enabling women's full engagement in biodiversity decisions is critical to ensure that biodiversity conservation and sustainable use efforts are successful in the long term. Without the contributions and buy-in of women and girls, these efforts risk overlooking the root causes of biodiversity loss, as well as potential solutions, and may continue to perpetuate gender inequalities.

### **The challenge of excluding women from Wildlife Conservation**

The connections between gender and wildlife use are diverse and depend on particular economic, cultural and ethnic contexts. But women may not participate in conservation activities either because they are excluded from doing so by vested interests or because

they do not feel empowered to speak out in their cultural contexts. This lack of understanding is highly problematic for conservation projects.

Also, women's productive and reproductive unpaid work and their participation in decision-making have a direct impact in wildlife use by:

- 1) Making male labour available to hunt or fish at times when seasonal demand for labour in agriculture peaks and
- 2) Reducing monetary cost of family reproduction and generating alternative sources of income and supporting food production, all which might reduce pressure on wildlife.

Women's particular roles and responsibilities within the household, community, and society lead women to develop unique knowledge related to biodiversity, shaped by their specific needs and priorities. They are thereby in a unique position to bring different perspectives and new solutions to addressing biodiversity concerns.

### **The other side**

Today, women around the world are changing the trajectory of conservation. As the fate of so many species and habitats hangs in the balance, women are rising to meet global challenges through collaboration, compassion, and courage. Research shows that conservation projects achieve better results when they involve women in decision-making. Yet, obstacles such as gender bias, discrimination, harassment, inequity in pay, cultural constraints, and violence remain prevalent. The overarching and adverse impacts of these gender-related challenges are only recently being studied and more openly spoken about in the conservation realm.

Although women are professionally expanding their presence in conservation, they are often underrepresented in higher positions of leadership across the conservation world. In local communities, women tend to have limited influence around management of natural resources and protected areas. And in science, less than 30 percent of the world's researchers are women, and those women are publishing less and getting paid less.

Yet, women across the world are underrepresented in decision-making positions related to environmental and sustainable development issues. Women also fall well behind men in achieving paid employment in natural resource management sectors – notably agriculture, fisheries, and forestry – in both developing and developed countries.

Furthermore, according to the OECD's Social Institutions & Gender Index, laws or customary practices of around 102 countries still restrict women's rights to access land. Without equal access to land and other key resources, women's opportunities and capacity to play an active role in biodiversity conservation is severely limited.

### **The Way Forward**

Measures are necessary to increase the representation of women in decision-making roles related to biodiversity and environmental governance at all levels.

- We need to mitigate both cultural and logistical barriers to allow women to voice their needs, knowledge, priorities, and solutions in relation to sustainable development – at the same level as men.
- Equal rights and access to ownership and control over land are also critically important for women across the world, as reflected in the Sustainable Development Goals (targets 1.4, 2.3, 5.a).
- We must allocate our attention and resources to the local level, to ensure that projects and programmes are implemented in ways that address gender issues.
- We need to spread awareness among women and girls of proposed biodiversity-related actions that affect them, and we must build their knowledge about their rights and about their options for contributing to shaping those actions.
- We also have to ignite the full engagement and support of men and boys to enable empowered participation of women and girls in biodiversity conservation. It is critical that men and boys understand and support measures for women's empowerment, to ensure that these measures will be accepted in the community.

An inclusive approach would also contribute to addressing the root causes of inequalities, through creating awareness and promoting long-term beneficial action.

**Note:** An e-book titled: “**The Green Queens of India – A nation's pride**” has been released which is a compilation of case studies, best practices and life experiences as shared by the woman officers themselves in what may truly be termed as a creative common collective.

### ***C. Steps to enhance the safety and security of women in the country***

**A separate Women Safety Division** has also been set up in the Ministry of Home Affairs (MHA) to sensitize the States/UTs on women safety related issues including timely completion of investigation of sexual assault cases.

Taking a tough stand against heinous incidents of sexual assaults, Government of India has made the **punishment of rape more stringent through the Criminal Law Amendment Act 2018**. To ensure the amendments in the law effectively translate at ground level various initiatives have been taken – Investigation Tracking System for Sexual Offences (ITSSO), National Database of Sexual Offenders” (NDSO), Cri-MAC (Crime Multi-Agency Center) and New citizen Services.

**ITSSO and NDSO:** Investigation Tracking System for Sexual Offences (ITSSO) is an online analytical tool launched to monitor and track timely completion of police investigations in sexual assault cases (currently two months as per Criminal Law (Amendment) Act 2018). Where, National Database of Sexual Offenders” (NDSO) has been launched to identify repeat offenders and receive alerts on sex offenders, as also in the investigation.

**An Adjournment Alert module** has also been developed as a step towards facilitating States/UTs to ensure timely in disposal of criminal cases. As per this, whenever a Government Prosecutor seeks an adjournment in a criminal case more than twice, the

system has a provision to send an alert to senior officers to prevent unavoidable delays.

**Cri-MAC:** Crime Multi Agency Center (Cri-MAC) has been introduced on 12 March 2020 for police stations and higher offices in all States/UTs to share information on heinous crimes and other issues related to coordination in cases of inter-state crime. It can be used to send alerts or related information on crime and inter-state criminals to the States/UTs via an email/SMS.

**New citizen Services** have been launched by National Crime Records Bureau on its portal [digitalpolicecitizenservice.gov.in](http://digitalpolicecitizenservice.gov.in) relevant for cases of Crimes against Women. These services include functionalities like 'Missing Person Search' that helps citizens find their missing kin from the national database of recovered unidentified found person/unidentified dead bodies. Another service is the 'Proclaimed offenders' functionality that helps to provide online information on proclaimed offenders to citizens.

**Nirbhaya Fund projects fast-tracked:** Projects funded by Nirbhaya Fund are also being fast-tracked by MHA to enhance the safety and security of women. 'Emergency Response Support System (ERSS)' is an example of such initiative. It is a pan-India, single, internationally recognized number, 112 for various emergencies. ERSS is currently operational in 34 States/UTs in the country and expected to be operational in other states/UTs by March 2021.

**Cyber Crime Prevention against Women & Children** is also a key focus area for MHA. Currently, 14 States including Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Mizoram, Odisha, Telangana, Uttar Pradesh and Uttarakhand have set up Cyber Forensic Training Laboratory. 13295 Police personnel, Prosecutors, and Judicial Officers have been trained in identifying, detecting and resolving cyber-crimes against women and children. Ministry of Home Affairs has also launched a portal, [www.cybercrime.gov.in](http://www.cybercrime.gov.in) wherein citizens can report obscene content and expect it to be blocked within 72 hours.

**Delhi Police recruited Social Workers & Counsellors** to encourage women to step up and report crimes without fear or shame

**Strengthening Forensic Science Laboratories:** Another initiative by MHA to improve the administration of justice in India by strengthening of Forensic Science Laboratories. Forensic science is an important aspect of any criminal investigation, as it can allow the authorities in identifying suspect in a crime, determine the timeline and other details related to crime. To further improve the criminal investigation strengthening the Forensic Science facilities in the country is also funded by the Nirbhaya Fund. A state-of-the-art DNA Analysis facility has been inaugurated on 23rd December 2019 at Central Forensic Science Laboratory (CFSL), Chandigarh. In order to ensure standardization and quality in the examination of evidence in sexual assault cases, the Directorate of Forensic Sciences Services has notified Guidelines for collection, handling and storage of forensic evidence in sexual assault cases. Along with this, a Sexual Assault Evidence Collection Kit has also been notified. Training of Investigation Officers/ Prosecution Officers/ Medical Officers on these guidelines and kits have been undertaken.

The Government has sanctioned Rs. 200 crore to States and Union Territories to set up Women Help Desks (WHDs) in police stations, and to set up/ strengthen **Anti Human Trafficking Units (AHTU)** in all districts of the country as also on vulnerable borders.

***D. All Major Schemes of WCD Ministry classified under 3 Umbrella Schemes viz. Mission Poshan 2.0, Mission Vatsalya and Mission Shakti***

Women and Children constitute 67.7% of India's population as per the 2011 census. Empowerment and protection of women and children and ensuring their wholesome development is crucial for sustainable and equitable development of the country. Ministry of Women and Child Development strives to ensure well-nourished and happy children growing in a safe and secure environment and empower women by providing them with an environment which is accessible, affordable, reliable and free from all forms of discrimination and violence. The prime objective of the Ministry is to address gaps in State action for women and children and to promote inter-ministerial and inter- sectoral convergence to create gender equitable and child centred legislation, policies and programmes.

The Constitution of the country has granted equal rights to women and men in terms of freedom and opportunity. To enable the woman to be the author of her destiny, a **life-cycle continuum approach** is being adopted that creates an ecosystem that addresses inherent biases and role plays, protects and upholds the rights and dignity of women and equips them with necessary skill sets and instills confidence in them to forge their way ahead. Women are key agents for achieving transformational economic, environmental and social changes required for sustainable development. To achieve this objective, continuation of existing schemes with suitable modifications is inevitable and necessary which can be achieved through **Mission Shakti**.

Children are the future of our country. Well-being of children is essential for the country's development as they contribute to the future human resource of the country. To strengthen nutritional content, delivery, outreach, and outcomes, Government is merging the **Supplementary Nutrition Programme and Poshan Abhiyan to launch Mission POSHAN 2.0**. The Ministry of Women and Child Development has taken many initiatives to ensure safety and well-being of children. **Mission VATSALYA** will ensure the same going ahead.

S.No.	Umbrella Scheme	Schemes included	Budget 2021-22  (Rs. In crores)
1.	Saksham Anganwadi and POSHAN 2.0	Umbrella ICDS – Anganwadi Services, Poshan Abhiyan, Scheme for Adolescent Girls, National Creche Scheme	20,105.00

2.	Mission VATSALYA	Child Protection Services and Child Welfare Services	900.00
3.	Mission Shakti (Mission for Protection and Empowerment for Women)	SAMBAL (One Stop Centre, Mahila Police Volunteer, Women's Helpline/Swadhar/Ujjawala/Widow Homes etc.)	3,109
		SAMARTHYA (Beti Bachao Beti Padhao, Creche, Pradhan Mantri Matru Vandana Yojana/ Gender Budgeting/Research/	

### ***E. 'Sports for women' under Khelo India Scheme***

The support is being provided in form of international standard sports infrastructure facilities, sports science backup, expert coaches and financial support to the athletes. Once the pandemic situation improves, it is being contemplated to start more leagues in the line of U-17 Khelo India Girls Football League.

## **GS-2**

### **Cabinet approves creation of Pradhan Mantri Swasthya Suraksha Nidhi**

The major benefit will be: enhanced access to universal & affordable health care through availability of earmarked resources, while ensuring that the amount does not lapse at the end of financial year.

- A non-lapsable reserve fund for Health in the Public Account;
- Proceeds of share of health in the Health and Education Cess will be credited into PMSSN;
- Accruals into the PMSSN will be utilized for the flagship schemes of the Ministry of Health & Family Welfare namely,
- Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)
- Ayushman Bharat – Health and Wellness Centres (AB-HWCs)
- National Health Mission
- Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)
- Emergency & disaster preparedness and responses during health emergencies
- Any future programme/scheme that targets to achieve progress towards SDGs and the targets set out in the National Health Policy (NHP) 2017.
- Administration and maintenance of the PMSSN is entrusted to Ministry of Health & Family Welfare; and
- In any financial year, the expenditure on such schemes of the MoHFW would be initially incurred from the PMSSN and thereafter, from Gross Budgetary Support (GBS).

## **1st Meeting of the BRICS Contact Group on Economic and Trade Issues**

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### ***(Topic: International forums)***

Theme -“BRICS@15: Intra BRICS Cooperation for Continuity, Consolidation, and Consensus”

Chairship: India

The deliverables proposed are on

- (i) Action plan based on the document “Strategy for BRICS Economic Partnership 2025” adopted during Russian Presidency in 2020
- (ii) BRICS Cooperation on Multilateral Trading system including cooperation for the TRIPS Waiver proposal at WTO;
- (iii) Framework for Consumer Protection in E-Commerce;
- (iv) Non-Tariff Measures (NTM) Resolution Mechanism;
- (v) Sanitary and Phyto-Sanitary (SPS) Working Mechanism;
- (vi) Co-operation framework for protection of Genetic Resources and Traditional Knowledge;
- (vii) BRICS Framework on Co-operation in Professional Services

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### **GS-3**

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#### **Promotion of Herbal Cultivation in the country**

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##### ***(Topic: Agriculture)***

Ministry of AYUSH, Government of India is implementing Centrally Sponsored Scheme of National AYUSH Mission (NAM). Under ‘Medicinal Plants’ component of the NAM scheme supporting market driven cultivation of prioritized medicinal plants in identified cluster/zones with in selected districts of States and implemented in a mission mode. As per the scheme guidelines, the support is provided for:

1. Cultivation of prioritized medicinal plants on farmer’s land.
2. Establishment of nurseries with backward linkages for raising and supply of quality planting material.
3. Post-harvest management with forward linkages.
4. Primary processing, marketing infrastructure etc.

National Medicinal plants Board, Ministry of AYUSH, Government of India is also implementing Central Sector Scheme on “Conservation, Development and Sustainable Management of Medicinal Plants” wherein following activities are supported:

- In-situ conservation / Ex-situ conservation
- Livelihood linkages with Joint Forest Management Committees (JFMCs) / Panchayats / Van Panchayats / Biodiversity Management Committees (BMCs) / Self Help Groups (SHGs).
- IEC activities like Training / workshops / Seminars/ Conferences etc.
- Research & Development.
- Promotion, marketing and trade of medicinal plants produce

Ministry of Finance has announced Rs. 4000 crore package under Atma Nirbhar Bharat for Promotion of Herbal Cultivation. The Ministry of AYUSH has prepared a draft scheme namely “Pradhan Mantri VRIKSH AYUSH Yojana” for cultivation and marketing of medicinal plants which is yet to be approved from Cabinet.

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## Water Crisis Due to Water Exploitation

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### *(Topic: Climate change)*

The average annual water availability of any region or country is largely dependent upon hydro-meteorological and geological factors, however, water availability per person is dependent on population of a country. The per capita water availability in the country is reducing due to **increase in population**. Also due to **high temporal and spatial variation of precipitation**, the water availability of many regions of the country is much below the national average and may result in water stress / scarce conditions.

Water being a **State subject**, steps for augmentation, conservation and efficient management of water resources are primarily undertaken by the respective State Governments. In order to supplement the efforts of the State Governments, Central Government provides technical and financial assistance to them through various schemes and programmes.

### **Command Area Development and Water Management (CADWM)**

**Programme:** Government of India is implementing Command Area Development and Water Management (CADWM) Programme which was brought under Pradhan Mantri Krishi Sinchai Yojana (PMKSY) – Har Khet Ko Pani 2015-16 onwards. The main objectives of CADWM program are:

- Utilize irrigation potential created (IPC) under the project soon after its creation;
- Improve water use efficiency;
- Increase agricultural productivity and production; and
- Bring sustainability in the irrigated agriculture in a participatory environment.

Under CADWM Scheme operated by the Department of Water Resources, River Development and Ganga Rejuvenation, financial assistance is given to the States for creation of Micro irrigation infrastructure in the canal irrigated commands with an aim to improve water use efficiency and promote micro-irrigation.



**Department of Agriculture Cooperation and Farmers Welfare is implementing Pradhan Mantri Krishi Sinchai Yojana – Per Drop More Crop (PMKSY-PDMC)** which focuses on water use efficiency at farm level through precision/micro irrigation (Drip and Sprinkler Irrigation System) for promotion of better on-farm water management practices to optimize the use of available water resources. This component also supports micro level water storage or water conservation/management activities to supplement Micro Irrigation.

In order to check groundwater exploitation and create awareness among the citizens of the country, **National Water Mission (NWM) has taken up campaigns like ‘Sahi Fasal’ Campaign**, to nudge farmers in the water stressed areas to grow crops which are not water intensive, but use water very efficiently, to nudge all stakeholders to create **Rain Water Harvesting Structures (RWHS)** suitable to the climatic conditions and sub-soil strata to catch the rains with the peoples’ active participation.

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## **Monitoring Committee to Identify Polluted Rivers**

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### ***(Topic: Conservation)***

Central Pollution Control Board (CPCB) in collaboration with the State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs) is regularly monitoring the water quality of rivers & other water bodies in the country through a network of monitoring stations. As per CPCB report of September, 2018, 351 polluted river stretches have been identified on 323 rivers based on monitoring results in terms of **Bio-chemical Oxygen Demand (BOD) levels**, an indicator of organic pollution.

Cleaning and rejuvenation of rivers is a continuous process and Central Government is supplementing the efforts of the State Governments and Union Territories in addressing the challenges of pollution of rivers by providing financial and technical assistance through schemes like National River Conservation Plan (NRCP) and Namami Gange.

In addition, sewerage infrastructure is created under programs like Atal Mission for Rejuvenation & Urban Transformation (AMRUT) and Smart Cities Mission of Ministry of Housing & Urban Affairs.

As per the Provisions of Environment (Protection) Act, 1986 and Water (Prevention & Control of Pollution), Act 1974, industrial units are required to install effluent treatment plants (ETPs) and treat their effluents to comply with stipulated environmental standards before discharging into rivers and water bodies. Accordingly, CPCB, SPCBs and PCCs monitor industries with respect to effluent discharge standards and take action for non-compliance under provisions of these Acts.

Steps taken by the Government to stop discharge of industrial effluents into rivers inter alia, include

- issuance of notification of specific discharge standards,

- revision of the criteria for categorization of industries and issuing directions to all State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs) to adopt the same,
- issuance of consent to establish/consent to operate by the SPCBs/PCCs, based on Comprehensive Environment Pollution Index (CEPI) critically polluted areas are identified to take necessary measures through time-targeted Action Plans,
- regular inspections of Grossly Polluting Industries (GPIs) by CPCB for compliance verification,
- Installation of Online Continuous Effluent Monitoring System (OCEMS) for assessment of effluent quality and compliance status.
- In addition, the industries are encouraged to reduce their waste water generation by technological advancement, reuse/recycle of wastewater and maintain Zero Liquid Discharge (ZLD) where ever possible.

### **Bio-Chemical Oxygen Demand:**

- BOD is the amount of dissolved oxygen needed (i.e. demanded) by aerobic biological organisms to break down organic material.
- BOD is a proxy for organic pollution. If BOD is higher, the worse is the river. The health of a river and the efficacy of water treatment measures by the States and municipal bodies are classified depending on BOD.
- When BOD is greater than or equal to 30 mg/l, it is termed as 'priority 1,' while that between 3.1 & 6 mg/l is 'priority 5.' CPCB considers BOD less than 3 mg/l, an indicator of a healthy river.

### **Reasons behind the river being more polluted:**

- Rapid urbanisation is widening the gap, since infrastructure planning is not keeping pace with growth in housing.
- There is poor infrastructure available in a large number of cities and towns located near rivers.
- Managing sewage requires steady funding of treatment plants for all urban agglomerations that discharge their waste into rivers, and also a reliable power supply.
- There is failure of several national programs run by the Centre for river conservation, wetland preservation and water quality monitoring.
- The sewage and industrial effluents freely flow into the rivers in several cities.
- Low priority is accorded to the enforcement of laws by SPCBs and pollution control committees.
- River water at the barrage was diverted to treatment plants for water supply. Reports pointed out that 37 per cent of the sewage treatment plants (STPs) in Delhi were under-utilized as they did not receive sewage because of lack of drainage system in many areas.

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**Metal rich environment crucial for light giant planets, but not necessary for heavy giant ones**

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## ***(Topic: Space and technology)***

Far away from our little home in the solar system, planets called exo-planets orbit stars similar to the Sun, forming their own stellar system. Scientists studying exo-planets found that while a metal-rich environment of host stars is vital for the formation of Jupiter-type light, but giant planets; it is not necessary for the long orbit heavy giant planets. This study which explores connections between the planet and host star properties, can help in understanding how planets form and evolve at large orbital distances.

With more than 4300 planets discovered till date, it has become essential to characterize the exo-planets in terms of their various properties. Correlation between star and planet properties can provide vital clues about the possible formation and evolution scenarios. Stars are largely made of Hydrogen and Helium with a small fraction of other elements. In astronomical lingo, elements heavier than Hydrogen and Helium are collectively called as metals. Metal content is an important parameter of the star, and there is a consensus that planets (small or large) are more likely to occur around metal-rich stars. Although the stellar metallicity and planet occurrence rates for close-by systems have been investigated by many research groups, properties of stellar hosts of exo-planets, especially those located at large orbital distances, are not very well studied.

While earlier, scientists studying the short-orbit exo-planets had found that a host star with a metal-rich environment provides the favourable condition for formation of Jupiter-type low-mass giant planets, the new study published in the Astronomical Journal suggests that this is not necessarily the case for the long orbit high-mass giant planets discovered by the direct imaging technique. This finding seems consistent with an existing model called the core accretion model of planet formation. For planet mass greater than mass of Jupiter, the large scatter in metallicity distribution suggests that metallicity might not play a significant role in the formation of these celestial objects. This means there is no single dominating mechanism for planet formation at wider orbits. Planets in remote orbits could form either by core accretion process or gravitational instability.

## **Prelims-oriented News**

**International Women's Day:** 8th March

**Exercise DUSTLIK:** Indo-Uzbekistan

**Conservation of Singorgarh Fort:** in Damoh district (MP)

- Is a hill-fort of Garha Kingdom, spread over the hills of a forested area
- It was a magnificent fort and a residence of **Rajgond rulers** of Central India who spent part of each year there.
- The fort was attacked in June, 1564 (under the reign of Mughal emperor Akbar) during the last war of the **Garha Kingdom dynasty**, under the rule of **Rani Durgavati**. At that time, Rani Durgavati, the ruling **Queen of Gondwana**, resided there; she later moved to Chouragarh Fort in Narsinghpur.

**Note:**

- Chief Minister of Madhya Pradesh: Shivraj Singh Chouhan
- Governor: Anandiben Patel.

### **First ever visit by Indian Naval Ships to the historic port city of Mongla, Bangladesh**

Indian Naval Ships **Sumedha**, an indigenously build Offshore Patrol vessel and **Kulish**, an indigenously built guided missile corvette, made a port call at the historic port town of Mongla in Bangladesh to commemorate the ongoing **Swarnim Vijay Varsh** and reiterating the historic Indo-Bangladeshi friendship.

This is the **first time** that any Indian Naval Ship is visiting the port of **Mongla in Bangladesh** and the visit is aimed at paying homage to the Bangladeshi and Indian combatants and citizens who laid down their lives during the **Liberation War of 1971**, and reiterate India's firm resolve and commitment to maintain peace, stability and good order in the region, in line with SAGAR – Security and Growth for all in the Region

### **Maitri Setu: Between India and Bangladesh**

- Built over **Feni river** which flows between Indian boundary in Tripura State and Bangladesh.
- The name 'Maitri Setu' symbolizes growing bilateral relations and friendly ties between India and Bangladesh.
- The 1.9 Km long bridge joins **Sabroom in India** with Ramgarh in Bangladesh.
- **Tripura** is set to become the '**Gateway of North East**' with access to Chittagong Port of Bangladesh, which is just 80 Kms from Sabroom.
- It will help ease the movement of goods and passengers between the two countries, provide new market opportunities for products of North East states and assist seamless movement of passengers to and from India and Bangladesh.

**Gender Advancement for Transforming Institutions (GATI):** To bring about gender balance in the institutions, the Consolidation of University Research for Innovation and Excellence in Women Universities (CURIE) targets to improve infrastructure in women-only universities and the Indo-U.S. Fellowship for Women in Science, Technology, Engineering, Mathematics and Medicine (WISTEMM) exposes women to some of the best international scientific institutions for boosting their capability and enthusiasm. GATI was launched for mentoring of institutions for transforming them towards more inclusive and sensitive approach towards women and to promote gender equity in Science, Technology, Engineering, Mathematics, and Medicine (STEMM) domains.

**Agriculture Voltage Technology:** This technology can increase the income of farmers by generation of electricity and growing of cash crops simultaneously on the same piece of land. Under component-I of KUSUM (Kisan Urja Suraksha Utthan Mahabhiyan) scheme, there is a provision for installation of agri-voltaic system in farmers' fields with a capacity

ranging from 500 KW to 2 MW. Moreover, National Solar Energy Federation of India (NSEFI) has also documented 13 operational agri-voltaic systems in the country managed by different solar PV functionaries and public Institutes.

**National Cyber Crime Reporting Portal:** ‘Police’ and ‘Public Order’ are State subjects as per the Seventh Schedule of the Constitution of India. States/UTs are primarily responsible for the prevention, detection, investigation and prosecution of crimes through their Law Enforcement Agencies (LEAs). Ministry of Home Affairs operationalized the National Cyber Crime Reporting Portal on 30th August 2019 to provide a centralized mechanism to the citizens for online reporting of all types of cybercrime incidents, with a special focus on cybercrimes against women and children. Incidents reported on this portal, their conversion into FIRs and subsequent action thereon are handled by the State/UT law enforcement agency concerned as per the provisions of the law.

### **Mobilising electric Vehicle financing in India**

A new report ‘Mobilising Electric Vehicle Financing in India’ was recently released.

**Released by:** NITI Aayog and Rocky Mountain Institute (RMI) India

#### *Key takeaways*

- It highlights the role of finance in India’s transition to **electric vehicles** (EVs).
- It has also analysed that the transition will require a capital investment of USD 266 billion in EVs, charging infrastructure, and batteries over the next decade.
- Consumers currently face several challenges, such as high interest rates, high insurance rates, and low loan-to-value ratios.
- 10 solutions have been identified to address these challenges.
- Financial institutions such as banks and NBFCs, and the industry and government will be able to adopt solutions.

**Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP):** Making quality medicines available at affordable prices for all, particularly the poor and disadvantaged, through exclusive outlets “Jan Aushadhi Medical Store”, so as to reduce out of pocket expenses in healthcare. Pradhan Mantri Bhartiya Jan Aushadhi Kendra (PMBJK) have been set up to provide generic drugs, which are available at lesser prices but are equivalent in quality and efficacy as expensive branded drugs.

- Create awareness among the public regarding generic medicines.
- Create demand for generic medicines through medical practitioners
- Create awareness through education and awareness program that high price need not be synonymous with high quality
- Provide all the commonly used generic medicines covering all the therapeutic groups
- Provide all the related health care products too under the scheme

**Rationale:** It is a well-known fact that branded medicines are sold at significantly higher prices in India. Given the widespread poverty across the country, making available reasonably priced quality medicines in the market would benefit everyone, especially the poor and the disadvantaged.

**By:** Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers

### **Ministry of Agriculture and Farmers Welfare signs MoU with Central Silk Board, Ministry of Textiles for promotion of Agroforestry in Silk Sector**

- Aims to incentivize the farmers to take up sericulture based Agroforestry models thereby contributing to the Make in India and Make for the World vision
- This linkage will add another dimension to agroforestry for faster returns to the growers as well as support the production of the range of silks that India is famous for.

#### **Under:** Sub-Mission on Agroforestry (SMAF) Scheme

- SMAF aims to encourage farmers to plant multi-purpose trees together with the agriculture crops for climate resilience and an additional source of income to the farmers, as well as enhanced feedstock to inter alia wood-based and herbal industry. Hence there is a concerted effort to include medicinal, fruits, fodder, tree-borne oilseeds, lac host etc. in addition to the longer rotation timber species.
- The initiative of formalizing the collaboration in the sericulture sector is especially targeted for augmentation of sericulture host plants e.g. Mulberry, Asan, Arjuna, Som, Soalu, Kessuru, BadaKessuru, Phanat, etc. to be cultivated both as block plantations and border or peripheral plantations on farmlands.
- Planting sericulture based tree species on the farm bunds and rearing silkworms has the potential of creating additional income opportunities for farmers besides their regular source of income from agriculture activities.

The **Central Silk Board (CSB)**, Ministry of Textiles, Govt. of India will act as a catalyst to promote Agroforestry in the silk sector.

The **Buniyaad Reeling Machine for Tussar Silk Yarn** were distributed to some of the beneficiaries – 8000 women thigh reelers were identified for providing Buniyaad machines and 5000 women have already been supported under Silk Samagra Phase I

**Release of 11 Volumes of Manuscript with commentaries by 21 scholars on shlokas of Srimad Bhagavad Gita:** In general the practice with Srimad Bhagavadgita is to **present the text with a single commentary**. For the first time, many of the key commentaries by celebrated Indian scholars are being brought together for achieving a comprehensive and comparative appreciation of Srimad Bhagavadgita. The Manuscript, published by Dharmarth Trust, is written with extraordinary variety and nuance of Indian calligraphy ranging from **Shankar Bhashya to Bhasanuvada**.

#### **Steps to reduce border infiltration**

The Indian Army has adopted a robust counter infiltration strategy which has an appropriate mix of technology and human resource put together to check infiltration effectively. Innovative troops deployment, proactive use of surveillance and monitoring devices and the Anti Infiltration Obstacle System (AIOS) have enhanced the ability to detect and intercept terrorists attempting to infiltrate/exfiltrate. On the basis of regular analysis of threat assessment and past infiltration attempts, drill and procedures are modified to counter emerging threats. Some of the measures employed by Indian Army are as under:-

- Appraisal and upgradation of intelligence gathering capabilities.
- Reorientation of surveillance architecture to enmesh with counter infiltration deployment.
- Augmentation of Anti Infiltration Obstacle System (AIOS) incorporating surveillance assets.
- Enhanced incorporation of aerial platforms, night vision equipment, radars, underground sensors etc. to strengthen the surveillance architecture.
- Maintenance of heightened alert in areas along the LC.

The Indian Army, along with Research & Development agencies, regularly upgrade the design of Anti Infiltration Obstacle System (AIOS) on the fence to incorporate 'Smart' components such as Border Surveillance System (BOSS), Laser Fence, Short Range Surveillance Equipment etc.

**Aatmanirbhar Bharat Rozgar Yojna (ABRY) Scheme** has been launched to incentivize employers for creation of new employment along with social security benefits and restoration of loss of employment during COVID-19 pandemic. This scheme being implemented through the Employees' Provident Fund Organisation (EPFO) reduces the financial burden of the employers of various sectors/industries including MSME and encourages them to hire more workers. Under ABRY, the Government of India is bearing for a period of two years, both the employees' share (12% of wages) and employers' share (12% of wages) of contribution payable or only the employees' share, depending on employment strength of the EPFO registered establishments.

**Under Pradhan Mantri Rojgar Protsahan Yojana (PMRPY)** Government is incentivizing employers for creation of new employment with social security benefits by paying Employer's full contribution i.e. 12% towards EPF and EPS both (as admissible from time to time) for a period of three years to the new employees through EPFO. The terminal date for registration of beneficiary through establishment was 31st March 2019. The beneficiaries registered upto 31st March, 2019 will continue to receive the benefits for 3 years from the date of registration under the scheme.

**Pradhan Mantri Mudra Yojana (PMMY)** has been initiated by Government inter alia, for facilitating self-employment. Under PMMY collateral free loans upto Rs. 10 lakh, are extended to micro/small business enterprises and to individuals to enable them to setup or expand their business activities.

## **Initiatives to Increase Production of Domestic Oil and Gas**

## *1. Long Term Initiatives*

1. Policy for Relaxations, Extensions and Clarifications under Production Sharing Contract (PSC) regime for early monetization of hydrocarbon discoveries, 2014.
2. Discovered Small Field Policy, 2015.
3. Hydrocarbon Exploration and Licensing Policy, 2016.
4. Policy for Extension of Production Sharing Contracts, 2016 and 2017.
5. Policy for early monetization of Coal Bed Methane 2017
6. Setting up of National Data Repository, 2017.
7. Appraisal of Unappraised areas in Sedimentary Basins 2017
8. Re-assessment of Hydrocarbon Resources 2017
9. Policy framework to streamline the working of Production Sharing Contracts in Pre-NELP and NELP Blocks, 2018.
10. Policy to Promote and Incentivize Enhanced Recovery Methods for Oil and Gas, 2018.
11. Policy framework for exploration and exploitation of Unconventional Hydrocarbons under existing Production Sharing Contracts, Coal Bed Methane contracts and Nomination fields, 2018.
12. Policy framework for Exploration and exploitation of Coal Bed Methane (CBM) from areas under Coal Mining Lease allotted to Coal India Limited (CIL) and its subsidiaries 2018
13. Reforms in Hydrocarbon Exploration and Licensing Policy for enhancing domestic exploration and production of oil and gas 2019

## *2. Short term initiatives*

1. Early Monetization of Existing Discoveries.
2. Improving Recovery Factor through implementation of IOR and EOR techniques.
3. Revival of sick wells.
4. Infill Drilling of wells.
5. Renewal of Facilities and other infrastructure.
6. Monetization of small and marginal discoveries in onshore through service contract and outsourcing.
7. Redevelopment of existing matured fields and development of new fields/marginal fields.
8. Induction of suitable technologies on selective fields.

**Declaration Of World Heritage Sites By UNESCO:** At present, India has 38 World Heritage Properties. All the sites under the Ministry are conserved as per ASI's Conservation Policy and are in good shape.

- **Under Tentative List:** Dholavira: A Harappan City, Santiniketan, India, Sacred Ensemble of Hoysalas
- **Under Protection of Archaeological Survey of India (22)**



S.No.	Name of Site	State
	Agra Fort (1983)	Uttar Pradesh
2.	Ajanta Caves (1983)	Maharashtra
3.	Ellora Caves (1983)	Maharashtra
4.	Taj Mahal (1983)	Uttar Pradesh
5.	Group of Monuments at Mahabalipuram (1984)	Tamil Nadu
6.	Sun Temple, Konark (1984)	Odisha
7.	Churches and Convents of Goa (1986)	Goa
8.	Fatehpur Sikri (1986)	Uttar Pradesh
9.	Group of Monuments at Hampi (1986)	Karnataka
10.	Khajuraho, Group of Temples (1986)	Madhya Pradesh
11.	Elephanta Caves ( 1987)	Maharashtra
12.	Great Living Chola Temples at Thanjavur, Gangaikondacholapuram and Darasuram (1987 & 2004)	Tamil Nadu
13.	Group of Monuments at Pattadakal (1987)	Karnataka
14.	Buddhist Monuments at Sanchi (1989)	Madhya Pradesh
15.	Humayun's Tomb, Delhi (1993)	Delhi
16.	Qutb Minar and its Monuments, Delhi (1993)	Delhi
17.	Rock Shelters of Bhimbetka (2003)	Madhya Pradesh
18.	Champaner-Pavagadh Archaeological Park (2004)	Gujarat
19.	Red Fort Complex, Delhi (2007)	Delhi

20.	Hill Forts of Rajasthan	Rajasthan
	1. Kumbhalgarh, Jaisalmer and Ranthambhore, Amber and Gagron Forts) (2013)	
	(Amber and Gagron Forts are under protection of Rajasthan State Archaeology and Museums)	
21.	Rani-ki-Vav (The Queen's Stepwell) at Patan (2014)	Gujarat
22.	Archaeological Site of Nalanda <i>Mahavihara</i> (Nalanda University) at Nalanda (2016)	Bihar

#### **Under Protection of Ministry of Railways (2)**

23.	Mountain Railways of India Darjeeling, (1999), Nilgiri (2005), Kalka-Shimla (2008)	West Bengal, Tamil Nadu, Himachal Pradesh
24.	Chhatrapati Shivaji Terminus (formerly Victoria Terminus) (2004)	Maharashtra

#### **Under Protection of Bodhgaya Temple Management Committee (1)**

- 25 Mahabodhi Temple Complex at Bodh Gaya, (2002) Bihar

#### **Under Protection of Rajasthan State Archaeology and Museums (1)**

26. The JantarMantar, Jaipur (2010) Rajasthan

#### **Under Protection of Chandigarh Administration (1)**

27. The Architectural Work of Le Corbusier, an Outstanding Contribution to the Modern Movement (2016) Chandigarh

#### **Under Protection of Ahmedabad Municipal Corporation (1)**

28. Historic City of Ahmedabad (2017) Gujarat

## **Under Protection of Bombay Municipal Corporation (1)**

29. Victorian and Art Deco Ensemble of Mumbai (2018) Govt of Maharashtra

## **Under Protection of Jaipur Municipal Corporation (1)**

30. Jaipur City, Rajasthan (2019) Govt of Rajasthan

## **NATURAL SITES: (7)**

### **Under Protection of Ministry of Environment, Forest and Climate Changes**

31. Kaziranga National Park (1985)	Assam
32. Keoladeo National Park (1985)	Rajasthan
33. Manas Wildlife Sanctuary (1985)	Assam
34. Sunderbans National Park (1987)	West Bengal
35. Nanda Devi and Valley of Flowers National Parks (1988, 2005)	Uttarakhand
36. Western Ghats (2012)	Karnataka, Kerala, Maharashtra, Tamil Nadu
37. Great Himalayan National Park (2014)	Himachal Pradesh

## **MIXED SITE: (1)**

### **Under Protection of Ministry of Environment, Forest and Climate Changes**

38. Khangchendzonga National Park (2016) Sikkim

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# PRESS INFORMATION BUREAU (PIB) IAS UPSC – 15th March to 20th March – 2021

 [iasbaba.com/2021/03/press-information-bureau-pib-ias-upsc-15th-march-to-20th-march-2021](https://iasbaba.com/2021/03/press-information-bureau-pib-ias-upsc-15th-march-to-20th-march-2021)

Date March 26, 2021

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## Development of Nomadic Tribes

*(Topic: Indian society)*

To promote the socio-economic development of De-notified, Nomadic and Semi-Nomadic Communities, the Development and Welfare Board for De-notified, Nomadic and Semi-Nomadic Communities (DWBDNCs) has been constituted for a period of three years extendable up to 5 years with following terms of reference:-

- To formulate and Implement Welfare and Development programme as required, for De-notified, Nomadic and Semi-Nomadic Communities.
- To identify the locations/areas where these communities are densely populated.
- To assess and identify gaps in accessing existing programmes and entitlements and to collaborate with Ministries/Implementing agencies to ensure that ongoing programmes meet the special requirements of De-notified Nomadic and Semi-Nomadic Communities.
- To monitor and evaluate the progress of the schemes of Government of India and the States/UTs with reference to De-notified Nomadic and Semi-Nomadic Communities.
- Any other related work as may be assigned by the Ministry of Social Justice and Empowerment.

In addition, the following schemes are being implemented by the Central Government through State Government/UT Administrations for the DNTs:-

1. Pre and Post Matric Scholarships to DNT Students.
2. Nanaji Deshmukh Scheme of Construction of Hostels for DNT Boys and Girls.

A Committee under the Chairmanship of Vice Chairman of NITI Aayog has taken up the task of identification of DNT communities which are yet to be formally classified.

NITI Aayog has assigned the task of ethnographic survey of 62 tribes to the Anthropological Survey of India (AnSI) to conduct the studies of these communities in different parts of India

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## **Rajya Sabha passes The Medical Termination of Pregnancy (Amendment) Bill, 2021**

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### ***(Topic: Welfare of Women)***

- Enhancing the upper gestation limit from 20 to 24 weeks for special categories of women which will be defined in the amendments to the MTP Rules and would include survivors of rape, victims of incest and other vulnerable women (like differently-abled women, minors) etc.
- Opinion of only one provider will be required up to 20 weeks of gestation and of two providers for termination of pregnancy of 20-24 weeks of gestation.
- Upper gestation limit not to apply in cases of substantial foetal abnormalities diagnosed by Medical Board. The composition, functions and other details of Medical Board to be prescribed subsequently in Rules under the Act.
- Name and other particulars of a woman whose pregnancy has been terminated shall not be revealed except to a person authorised in any law for the time being in force.

- The ground of failure of contraceptive has been extended to women and her partner.

The Medical Termination of Pregnancy (Amendment) Bill, 2021 is for expanding access of women to safe and legal abortion services on therapeutic, eugenic, humanitarian or social grounds. The amendments include substitution of certain sub-sections, insertion of certain new clauses under some sections in the existing Medical Termination of Pregnancy Act, 1971, with a view to increase upper gestation limit for termination of pregnancy under certain conditions and to strengthen access to comprehensive abortion care, under strict conditions, without compromising service and quality of safe abortion.

It is a step towards safety and well-being of the women and many women will be benefitted by this. Recently several petitions were received by the Courts seeking permission for aborting pregnancies at a gestational age beyond the present permissible limit on grounds of foetal abnormalities or pregnancies due to sexual violence faced by women. The amendments will increase the ambit and access of women to safe abortion services and will ensure dignity, autonomy, confidentiality and justice for women who need to terminate pregnancy.

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## **GS-2**

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### **ILO report on Indian Workers – Global Wage Report 2020-21: Wages and minimum wages in the time of COVID-19**

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***(Topic: Labour and employment)***

- The Report inter-alia, comments on various issues including on Indian workers having low average wages, longer hours as well as that the workers in Asia and the Pacific enjoyed the highest real wage growth among all regions over the period 2006–19, with India leading the way along with other countries.
- Further, while comparing average wage, the report has taken into account the National Floor Level Minimum Wage which is Rs.176/- per day. However, actual wages are far higher. If the median of the minimum wages in different states is drawn, it would be Rs.269/- per day in the country.

The Code on Wages, 2019 which has been notified on 8th August, 2019 universalises and creates a statutory right of minimum wages for all workers whether in organized or unorganised sector. A new concept of statutory floor wage has also been introduced in the Code on Wages. The Code also provides that the minimum wages are to be ordinarily reviewed and revised by the appropriate Governments in intervals not exceeding five years.

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### **Steps taken by the Government to use artificial intelligence for education transformation**

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***(Topic: Issues relating to development and management of Social Sector/Services relating to Education)***

The National Education Policy (NEP) 2020 has recommended introducing contemporary subjects like Artificial Intelligence in curriculum, at relevant stages.

- The National Council of Educational Research & Training (NCERT) has initiated the process for preparation of a new National Curriculum Framework for School Education in pursuance of the NEP, 2020 during which the possibility of introducing an introductory course on Artificial Intelligence (AI) at secondary level would also be explored.
- The Central Board of Secondary Education (CBSE) has introduced Artificial Intelligence as a subject in class IX from session 2019-2020 and in Class-XI from session 2020-2021 in their affiliated schools.
- All AICTE approved institutions have been suggested to offer Artificial Intelligence as an elective in B.Tech. courses and also start B.Tech course in Artificial Intelligence and Data Science to augment the human resource in Artificial Intelligence and Data Analytics. So far as the Indian Institutes of Technology (IITs) are concerned, their Acts and Statutes allow them to have their own curriculum, academic & research collaboration with Institutions and Universities across the world.

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### **Steps taken by the Government for developing the linkage between educational institutions, Industries and R&D Institutions**

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#### ***(Topic: Issues relating to development and management of Social Sector/Services relating to Education)***

- **Impacting Research Innovation & Technology (IMPRINT):** This initiative aims at providing solutions to the most relevant engineering challenges and translating knowledge into viable technology in 10 selected technology domains, viz. Health care, energy, sustainable habitat, nano technology hardware, water resources and river systems, advanced materials, Information and communication technology, manufacturing, security and defense, and environmental science and climate change. It is a pan IITs and IISc Joint Initiative seeking to develop a roadmap for research. During 2018-2019 Rs. 46.30 crore and during 2019-2020 Rs. 47.20 crore has been released.
- **Research Park:** Research park at IIT Delhi, IIT Guwahati, IIT Kharagpur, IIT Kanpur, IIT Chennai, have been established which provide an interface between entrepreneurship and Industry to establish their R&D units in collaboration with students & faculty members of the IITs. In the year 2020-21 Rs. 144.50 crore has been released.
- **UchhatarAvishkarYojana (UAY):** This initiative promotes innovation of a higher order that directly impacts the needs of the Industry and thereby improves the competitive edge of Indian manufacturing. The project envisages collaboration between the academia and industry – within or outside India.

In order to provide impetus to vocational education the allocation in 2021-22 for National Apprenticeship Training Scheme has been kept at Rs. 500 crore. Further, UGC has already issued guidelines for Apprenticeship/Internship Embedded Degree Program.

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## **US India Artificial Intelligence (USIAI) Initiative launched**

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***(Topic: Government policies and interventions for development in various sectors and issues arising out of their design and implementation)***

Research, technology in artificial intelligence is being promoted and implemented in the country through a network of 25 technology hubs working as a triple helix set up under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS).

IUSSTF's USIAI Initiative focuses on AI cooperation in critical areas that are priorities for both countries. USIAI will serve as a platform to discuss opportunities, challenges, and barriers for bilateral AI R&D collaboration, enable AI innovation, help share ideas for developing an AI workforce, and recommend modes and mechanisms for catalyzing partnerships.

The U.S.-India AI Initiative will provide an opportunity for key stakeholder groups to share experiences, identify new R&D areas and opportunities that would benefit from synergistic activities, discuss the emerging AI landscape, and address the challenges of developing an AI workforce.

The ambitious flagship initiative, USIAI, leverages IUSSTF's unique ability to bring together key stakeholders from India and the United States to create synergies that address challenges and opportunities at the interface of science, technology, and society. Over the next year, IUSSTF will conduct a series of roundtables and workshops to gather input from different stakeholder communities and prepare White Papers that identify technical, research, infrastructure, and workforce opportunities and challenges, and domain-specific opportunities for R&D in healthcare, smart cities, materials, agriculture, energy, and manufacturing.

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## **India-Finland Virtual Summit**

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***(Topic: India and other countries)***

- Both leaders noted that the close relations between India and Finland were based on shared values of democracy, rule of law, equality, freedom of speech, and respect for human rights. They reaffirmed their strong commitment to work for multilateralism, a rules-based international order, sustainable development and combating climate change.
- The two leaders reviewed the ongoing bilateral engagements and expressed their desire to further expand and diversify the relationship across sectors such as trade and investment, innovation, education, emerging technologies including Artificial Intelligence, 5G/6G, and quantum computing.



- Prime Minister Modi appreciated Finland's leading role in clean and green technologies, and noted the potential for Finnish companies to partner India's drive towards sustainable development. In this context, he suggested enhanced cooperation in the areas like renewable and bio-energy, sustainability, edu-tech, pharma and digitization.
- The leaders exchanged views on regional and global issues, including the India-EU partnership, cooperation in the Arctic region, WTO and UN reforms. Both sides noted the potential for India and Finland to cooperate in undertaking developmental activities in Africa.
- Prime Minister Modi invited Finland to join the International Solar Alliance (ISA) and the Coalition for Disaster Resilient Infrastructure (CDRI).
- The two leaders also discussed the Covid-19 situation including their respective vaccination drives, and emphasized the importance of global efforts for urgent and affordable access to vaccines across all nations.
- The two leaders looked forward to their forthcoming meetings during the India-EU Leaders' Meeting in Porto and the India-Nordic Summit.

### **Cabinet approves MoU between India and Maldives on Cooperation in Sports and Youth Affairs**

- Bilateral exchange programmes in the field of sports and youth affairs between India and Maldives will help in expanding knowledge and expertise in the area of sports science, sports medicine, coaching techniques, participation in youth festivals and camps which would result in improvement in performance of our sportspersons in international tournaments and strengthening of bilateral relations between India and Maldives.
- Benefits arising from bilateral cooperation in the field of sports and youth affairs with Maldives would be equally applicable to all sportspersons irrespective of their caste, creed, region, religion and gender.

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### **The Sixth India-Brazil-South Africa (IBSA) Women's Forum meeting**

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#### ***(Topic: International forums)***

The India-Brazil-South Africa (IBSA) Trilateral Cooperation Forum is a unique platform which brings together India, Brazil and South Africa, three large democracies and major economies from three different continents. All three partners are developing pluralistic, multi-cultural, multi-ethnic, multi-lingual and multi-religious nations.

IBSA is committed to inclusive sustainable development, in pursuit of the well-being for their citizens and those from the other developing nations. The principles, norms and values underpinning the IBSA Dialogue Forum are participatory democracy, respect for human rights, the Rule of Law and the strengthening of multilateralism. IBSA lays efforts in the South-South cooperation beyond the conventional areas of exchange of experts and training.

During the consultation, the Forum discussed key issues that contribute towards the transformation of women's lives; by highlighting initiatives, policies and best practices for gender inclusive economy for transformation as well as for elimination of gender based discrimination and violence against women, which in the coming time will help not only in understanding each other's systems and programmes but will also carve a strategic roadmap to promote gender equality agenda for achieving sustainable development goals. The Forum emphasized on the necessity to raise voice on various multilateral fora to highlight the development priorities of the associate countries and emphasized how gender equality makes sound economic sense.

The participating countries also lauded the efforts of Government of India in helping out other countries to overcome the challenges posed by COVID-19 pandemic by way of providing vaccines, masks, sanitizers, PPE Kits etc.

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## **The third edition of the annual conference of the Coalition for Disaster resilient Infrastructure (CDRI)**

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### ***(Topic: International forums)***

PM Modi highlighted few key areas that need to be accorded priority:

**First**, CDRI must embody the central promise of the Sustainable Development Goals, that is, “leave no one behind”. This means that we have to put the concerns of the most vulnerable nations and communities first. In this regard, the Small Island Developing Nations that are already experiencing the impacts of worsening disasters must have easy access to all the technology, knowledge and assistance that they consider necessary. We must have the capability and support to adapt global solutions to the local context.

**Second**, we must take stock of the performance of some of the key infrastructure sectors – particularly health infrastructure and the digital infrastructure that played a central role during the pandemic. What are the lessons from these sectors? And how can we make them more resilient for the future? At the national and sub-national level we have to invest in capabilities for integrated planning, structural design, availability of modern materials, and a large number of skilled personnel in all infrastructure sectors. There is need for Research and Development in all these areas.

**Third**, in our quest for resilience, no technological system should be considered too basic or too advanced. The CDRI must maximize the demonstration effect of the application of technology. In Gujarat, we built India's first hospital with base isolation techniques. Now base isolators for earthquake safety are manufactured in India itself. In the current context, we have many more opportunities. We must harness the full potential of geo spatial technologies, space-based capabilities, data science, artificial intelligence, material sciences, and combine it with local knowledge to pursue resilience.

**And finally**, the notion of “resilient infrastructure” must become a mass movement galvanizing the energies of not just the experts, and formal institutions but also communities, and particularly the youth. A social demand for resilient infrastructure will

go a long way in improving compliance to standards. Investing in public awareness and education is a key aspect of this process. Our education system must enhance the awareness of locally specific hazards and their possible impact on infrastructure.

*Just as the fight against the pandemic mobilized the energies of the world's seven billion people, our quest for resilience must build on the initiative and imagination of each and every individual on this planet.*

### **Coalition for Disaster resilient Infrastructure (CDRI)**

- The CDRI is an international coalition of countries, UN agencies, multilateral development banks, the private sector, and academic institutions that aim to promote disaster-resilient infrastructure.
- Objective: To promote research and knowledge sharing in the fields of infrastructure risk management, standards, financing, and recovery mechanisms.
- Launched by: The Indian PM Narendra Modi at the 2019 UN Climate Action Summit in September 2019. (experience in dealing with the aftermath of the 2001 Gujarat earthquake led to this idea)
- CDRI's initial focus is on developing disaster-resilience in ecological, social, and economic infrastructure. It aims to achieve substantial changes in member countries' policy frameworks and future infrastructure investments, along with a major decrease in the economic losses suffered due to disasters.
- It was organized by the National Disaster Management Authority (NDMA), in partnership with the UN Office for Disaster Risk Reduction (UNDRR), the UN Development Programme, the World Bank, and the Global Commission on Adaptation.
- The CDRI is the second major coalition launched by India outside of the UN, the first being the International Solar Alliance. Both of them are seen as India's attempts to obtain a global leadership role in climate change matters and were termed as part of India's stronger branding.

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## **GS-3**

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### **India's Trade Performance during COVID-19 Period**

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#### ***(Topic: Indian Economy)***

India's overall (merchandise and services) export was US\$ 394.96 billion during 2020-21 (April-January) as compared to US\$ 443.24 billion during 2019-20 (April-January), i.e. a negative growth of 10.89%.

During 2020-21 (April-January), India's overall import was US\$ 400.84 billion as compared to US\$ 514.57 billion during 2019-20 (April-January), i.e. a negative growth of 22.10%.

India's overall trade deficit was US\$ 5.88 billion during 2020-21 (April-January) as compared to US\$ 71.33 billion in 2019-20 (April-January), with a high reduction of trade deficit of US\$ 65.45 billion.

In order to increase the production and exports of Pharma, Agriculture, Automobile, and Defence items and to re-energize India's trade performance, some of the key steps taken are:

1. A comprehensive "Agriculture Export Policy" to provide an impetus to agricultural exports is under implementation.
2. Product specific Export Promotion Forums (EPF) for eight high potential agri-products i.e. Grapes, Mango, Banana, Onion, Rice, Nutri-Cereals, Pomegranate, Floriculture and Plant material have been created to promote export of identified products in a focused manner.
3. Subsidy is provided under Operation Greens scheme for transportation of fruits and vegetable through Kisan Rail.
4. Trade Infrastructure for Export Scheme (TIES), Market Access Initiatives (MAI) Scheme and Transport and Marketing Assistance (TMA) have been launched to promote trade infrastructure and marketing.
5. Assistance to the exporters of agricultural products is made available under the export promotion schemes of Agricultural and Processed Food Products Export Development Authority (APEDA), Marine Products Export Development Authority (MPEDA), Tobacco Board, Tea Board, Coffee Board, Rubber Board and Spices Board.
6. Production-Linked Incentive (PLI) Scheme for 13 sectors- 3 sectors in March, 2020 and 10 sectors in November, 2020 with an outlay of Rs 1.97 lakh crore has been launched to provide a major boost to manufacturing. These sectors are (i) Automobiles and Auto Components, (ii) Pharmaceuticals Drugs, (iii) Specialty Steel, (iv) Telecom & Networking Products, (v) Electronic/Technology Products, (vi) White Goods (ACs and LEDs), (vii) Food Products, (viii) Textile Products: MMF segment and technical textiles, (ix) High efficiency solar PV modules, and (x) Advanced Chemistry Cell (ACC) Battery (xi) Medical devices (xii) Large scale electronics manufacturing including mobile phones (xiii) Critical Key Starting Materials (KSMs) /Drug intermediaries and Active Pharmaceutical Ingredient (API).
7. Scheme for promotion of Bulk Drug Parks to provide grant-in-aid to 3 Bulk Drug Parks has been launched for creation of Common Infrastructure Facilities (CIF).
8. Export authorisation procedures have been streamlined through introduction of online procedures and portals for promotion of exports of Indian defence products.
9. A scheme for export promotion of Indian Defence Equipment manufactured in India has been rolled out.
10. Subject to strategic considerations, domestically manufactured defence products are promoted through Lines of Credit/Funding; Defence Lines of Credit (LOCs) are extended to sovereign governments to enable buyers in those countries, to import goods and services from India.

11. A new category of capital procurement “Buy (Indian-IDD (Indigenously Designed, Developed and Manufactured))” has been introduced in Defence Procurement Procedure (DPP) – 2016 to promote indigenous design and development of defence equipment.
12. The ‘Make’ procedure of capital procurement has been simplified. There is a provision for funding of 90% of development cost by the Government to Indian industry under Make-I category. In addition, there are specific reservations for MSMEs under the ‘Make’ procedure. Separate procedure for ‘Make-II’ category (Industry funded) has been notified under Defence Procurement Procedure 2016 to encourage indigenous development and manufacture of defence equipment.
13. The Government of India has enhanced FDI in Defence Sector up to 74% through the Automatic Route for companies seeking new defence industrial license and up to 100% by Government Route.
14. Foreign Trade Policy (2015-20) has been extended by one year i.e. upto 31-3-2021 due to the COVID-19 pandemic situation.
15. Interest Equalization Scheme on pre and post shipment rupee export credit has also been extended by one year i.e. upto 31-3-2021.
16. A new Scheme, Remission of Duties and Taxes on Exported Products (RoDTEP), has been launched.
17. Common Digital Platform for Certificate of Origin has been launched to facilitate trade and increase FTA utilization by exporters.
18. Promoting and diversifying services exports by pursuing specific action plans for the 12 Champion Services Sectors.
19. Promoting districts as export hubs by identifying products with export potential in each district, addressing bottlenecks for exporting these products and supporting local exporters/manufacturers to generate employment in the district.
20. Active role of Indian missions abroad towards promoting India’s trade, tourism, technology and investment goals has been enhanced.

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## Steps Taken To Enhance Capacity of Security Forces

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### ***(Topic: Security)***

The Government has taken several policy initiatives and reforms to promote indigenous design, development and manufacture of defence equipment in the country and enable development or transfer of technologies in the country.

- Defence Procurement Procedure (DPP)-2016 has been revised as Defence Acquisition Procedure (DAP) -2020, which is driven by the tenets of Defence Reforms announced as part of ‘Atmanirbhar Bharat Abhiyan’.
- Opened North & South Defence Industrial corridors to promote setting up of industries supporting defence equipment.
- Permitted acceptance of “Suo Moto” proposals from industry for undertaking indigenous design & development for items needed for defence services.

- Formulated the iDEX (Innovation in Defence Excellence) framework to provide an ecosystem for Startups/individual innovators/MSMEs to engage with Ministry of Defence/Academia and other such agencies for manufacture of defence related items.
- Institutionalised the Technology Development Fund and its processes to facilitate the DRDO to engage with Indian industry for technology development needs.
- **Army Design Bureau (ADB):** Indian Army (IA) launched the ADB on 31st August, 2016. The role of the ADB is to act as a facilitator for research & development efforts and procurement of indigenously developed weapons and equipment extensive outreach programme for industry, MSMEs, Startups and Academia across the country for promoting 'Make in India'. The outreach programmes, apart from generating awareness about the modernization requirements, will help to meet the technology needs of the IA from within the confines of domestic resources and talent
- **Army Technology Board (ATB):** The ATB enables indigenous Research and Development efforts in accordance with the operational needs of the IA.
- **Technology Development Fund (TDF):** TDF has been launched by the Government to giving impetus to research and development projects beyond the proof of concept stage. It has been provided with a budget of Rs. 100 crores.
- The Indian Navy in coordination with Aeronautical Development Agency (ADA) is pursuing the indigenous development and acquisition of a Twin Engine Deck Base Fighter (TEDBF).
- Ministry of Defence has notified a 'First Positive Indigenisation List' of 101 items for which there would be an embargo on the import beyond the timeline indicated against them. This is a big step towards self-reliance in defence. This would offer a great opportunity to the Indian defence industry to manufacture these items using their own design and development capabilities to meet the requirements of the Armed Forces in the coming years.

Modernisation, upgradation and sustenance of military equipment and weapons is a continuous process and constant endeavour to equip the Armed Forces with modern weapon systems/ equipment being carried out under various procurement provisions (DAP & DPM). Also in emergencies as in the prevailing situation, special procurement powers to enhance the operational capability are given to Service Headquarters.

DRDO has played a major role in the development of state-of-the-art platforms, weapon systems and sensors and upgradation of defence equipment in the country which in turn has enhanced capacity of the Armed Forces to tackle the present security scenario of the country efficiently.

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**New wearable sensors capable of monitoring biomarkers from sweat can obviate necessity of invasive tests for monitoring health**

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*(Topic: Science and Technology)*

Dr. Vinu Mohan A.M., scientist at CSIR-Central Electrochemical Research Institute (CECRI), Karaikudi, Tamil Nadu, has introduced a flexible low cost, wearable sensor that can track sweat for monitoring the health and physiological status of the human body. It can obviate the necessity of blood and other invasive tests.

The wearable microfluidic sensor, which does not need a clean room, can be used for in situ monitoring of biomarkers such as lactate, Sodium (Na<sup>+</sup>), Potassium (K<sup>+</sup>), and Alkaline/acidic nature (pH) simultaneously from sweat samples. Using the INSPIRE Faculty fellowship, Dr. Vinu is improving upon the sensor to make it stretchable as well so that it can monitor the sweat during exercising and biking.

- The sensor can analyse biomarkers from human sweat during exercise activities without transfer of signals.
- The high-throughput sweat sampling ability of the sensor facilitates continuous capture and transport of sweat over the surface of the device resulting in real-time analysis.
- The flexible sensor can be attached on the irregular skin surface and monitors the dynamic biomarker levels, and are important for clinical diagnosis and personalized point-of-care analysis.
- Developing microfluidic sensors with rapid sweat sampling and multiplexed electrochemical recognition abilities are extremely important for accurate sweat biomarker analyses and continuous real-time monitoring of health.

He is also exploring other reliable biofluids such as saliva and fluid in tissues as they contain abundant chemical markers that could reflect the underlying physiology of the human body. They are also in-parallel focusing on developing wearable energy storage devices as they are essential for powering wearable electrochemical sensors. An all-printed solid-state flexible and stretchable supercapacitor having serpentine-shaped, interdigitated, freestanding interconnects was recently developed and used as energy buffering element for powering a wearable pulse rate sensor.

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## **Possible origin of winds from black hole accretion discs probed**

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### ***(Topic: Space)***

As gas and dust fall toward a black hole, they form a disk around it. As material piles up in the disk, it heats up to temperatures in excess of millions of degrees. A fraction of this infalling matter is ejected in the form of winds.

Scientists have tracked the generation of this wind and how it is driven by the disc of diffused swirling materials around the black hole called an accretion disc. Matter flowing out due to the wind should contaminate the environment play a major role in the evolution of the region harbouring these black holes. Therefore how such a process can be triggered need to be ascertained. Though these processes are still at the level of theoretical prediction, consensus has not been reached.

By blowing dense gas from the galactic nucleus and by halting inward flows from the galactic halo, the winds play a vital role in shaping the evolution of the black hole host galaxy. Hence the mechanism of generation of these winds and what drives them has intrigued scientists for a long as it helps them explore host galaxies.

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## **New technology for High Electron Mobility Transistor will make India self-reliant in power transistor technology**

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### ***(Topic: Science and Technology)***

Scientists from Bangalore have developed a highly reliable, High Electron Mobility Transistor (HEMTs) that is a normally OFF device and can switch currents up to 4A and operates at 600V. This first-ever indigenous HEMT device made from gallium nitride (GaN) is useful in electric cars, locomotives, power transmission and other areas requiring high voltage and high-frequency switching would reduce the cost of importing such stable and efficient transistors required in power electronics.

Power electronic systems demand high blocking voltage in OFF-state and high current in ON-state for efficient switching performance. Specific transistors called HEMTs made of aluminium gallium nitride/ gallium nitride (AlGaN/GaN) provides an edge over silicon-based transistors as they allow the systems to operate at very high voltages, switch ON and OFF faster, and occupy less space. Commercially available AlGaN/GaN HEMTs use techniques to keep the transistor in normally OFF state, which affects the stability, performance and reliability of the device.

The developed technology is a first of its kind, which uses a type of chemical called ternary oxide (composed of two different metal ions combined in an oxide matrix or Al, Ti and O), which behaves like material having larger positive charge concentration (p-type material). It does away with intrinsic reliability and performance issues of the in-use industrial techniques for e-mode HEMTs, allowing the development of efficient power switching systems.

This device will now be taken up for the prototype development and field-testing level (TRL 5). The scientists used aluminium titanium oxide as the gate oxide, where the percentage of aluminium could be controlled during the fabrication process. Since aluminium titanium oxide is stable, it resulted in high reliability of the transistor.

The projected overall power device market is set to cross the 18 Billion \$ mark by 2020, out of which the market for HEMTs is projected to cross the 5 Billion US\$ market. So, GaN HEMTs will acquire a major share of the power device market. With a growing market for electric vehicles in India, such an indigenous development can make India self-reliant for transistor technology.

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## **Artificial photosynthesis to provide solutions for carbon capture and conversion**



### ***(Topic: Science and Technology)***

Scientists have found a method to mimic nature's own process of reducing carbon dioxide in the atmosphere, namely photosynthesis, to capture excess carbon dioxide in the atmosphere. This artificial photosynthesis (AP) harnesses solar energy and converts the captured carbon dioxide to carbon monoxide (CO), which can be used as a fuel for internal combustion engines.

In artificial photosynthesis (AP), scientists are essentially conducting the same fundamental process in natural photosynthesis but with simpler nanostructures. However, there are plenty of hurdles to overcome as a successful catalyst to carry out AP.

A team of Scientists from Jawaharlal Nehru Centre for Advanced Scientific Research, an autonomous institute of the Department of Science & Technology (DST), Government of India, designed and fabricated an integrated catalytic system based on a metal-organic framework (MOF-808) comprising of a photosensitizer (molecules which absorb light and transfer the electron from the incident light into another nearby molecule) that can harness solar power and a catalytic centre that can eventually reduce CO<sub>2</sub>.

The scientists have immobilized a photosensitizer, which is a chemical called ruthenium bipyridyl complex ([Ru(bpy)<sub>2</sub>Cl<sub>2</sub>]) and a catalytic part which is another chemical called rhenium carbonyl complex ([Re(CO)<sub>5</sub>Cl]), inside the nanospace of metal-organic framework for artificial photosynthesis. Both these molecular entities stay in close proximity in the confined nano-space of a porous metal-organic framework system resulting in excellent CO<sub>2</sub> uptake capability at room temperature. This synthetic strategy empowers efficient solar light-driven photocatalysis.

The developed catalyst exhibited excellent visible-light-driven CO<sub>2</sub> reduction to CO with more than 99% selectivity. The catalyst also oxidizes water to produce oxygen (O<sub>2</sub>). The photocatalytic assembly, when assessed for CO<sub>2</sub> reduction under direct sunlight in a water medium without any additives, showed superior performance of CO production. Being heterogeneous, the integrated catalytic assembly can be reused for several catalytic cycles without losing its activity.

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### **Researcher working on low-cost smart nano devices for detection of disease receives SERB Women Excellence Award**

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### ***(Topic: Science and Technology)***

Dr. Sonu Gandhi, a Scientist at the National Institute of Animal Biotechnology (NIAB), Hyderabad, who has recently developed a smart nanodevice for the detection of Rheumatoid arthritis (RA), cardiovascular disease (CVD), and Japanese encephalitis (JE), has been awarded the prestigious SERB Women Excellence Award.

The award instituted by Science and Engineering Research Board (SERB), Department of Science and Technology (DST), recognises and rewards outstanding research achievements of young women scientists in frontier areas of Science and Engineering.

The smart nanodevice developed by her group helped in detection of the biomarkers of the diseases using graphene functionalised with amine and conjugated with specific antibodies.

The developed sensor offers several key advantages, such as ultra-high sensitivity, ease of operation, and a short response time, that can be easily integrated into a chip for point-of-care testing. The developed sensor exhibited a clear advantage over conventional techniques, and it is highly sensitive. They can improve early diagnosis of the diseases, ensuring prompt, more effective, and less expensive treatment.

Her work is based on understanding the mechanism of interaction between nanomaterials and biomolecules on the surface of devices called transducers that receive energy from one system and transmit it for the development of a new generation of biosensors for clinical diagnosis of bacterial and viral disease, veterinary and agricultural applications, food analysis and environmental monitoring.

### **Prelims oriented News**

**Prime Minister of Finland:** H.E. Ms. Sanna Marin

**The second edition of Indo-Uzbekistan Joint Field Training Exercise:**  
EXERCISE DUSTLIK-II

**World Leprosy Day:** 30th January

**GRAM UJALA in Bihar:** A customized program for rural India, based uniquely and innovatively on carbon finance. LEDs will be available for only Rs 10 each for each household, in exchange for working condition old incandescent lamps. Each household will get up to 5 LEDs.

**India-UK Cancer Research Initiative:** To support high quality research to deliver innovative and translatable outputs that accelerate progress against cancer outcomes in both the countries, and which also have the potential to have major global impact.

Under the initiative, the core challenges have been identified and seven seed grants have been awarded. The seven seed grants awarded are to work on affordable approaches to improve early diagnosis of symptomatic cancers; affordable screening tools to improve early detection of cancer; risk factors to better understand regional variations in incidence, enabling new approaches to cancer prevention; computational approaches that can reduce the cost of cancer care delivery; affordability of effective cancer treatments; affordable screening tools to improve early detection of cancer; and affordability of effective cancer treatments.

**SARS-CoV-2 Genomics Consortium:** The Indian SARS-CoV-2 Genomics Consortium (INSACOG) was set up for genomic surveillance of SARS-CoV-2 in India. In INSACOG, 10 laboratories were designated in India for Whole Genome Sequencing (WGS) with the objectives: to ascertain the current status of new variant of SARS COV-2 in the country; to

establish a sentinel surveillance for early detection of genomic variants with public health implication; to determine the genomic variants in the unusual events/trends (super spreader events, high mortality/ morbidity trend areas etc).

**Silk Samagra:** An Integrated Scheme for Development of Silk Industry (ISDSI) for the overall development of Silk industry in the Country with an aim & objective to scale up production by improving the quality and productivity and to empower downtrodden, poor & backward families through various activities of sericulture in the country. The raw silk production in the country has shown increasing trend during last five years due to implementation of the “Silk Samagra” scheme and other initiatives of Government.

**India TB Summit:** Accorded high priority to eradicating Tuberculosis in India by 2025, five years ahead of the Sustainable Development Goals (SDG) target of 2030. The Government of India is committed to scale up access to free diagnosis through rapid molecular tests also providing information on drug resistance, free treatment for all people with TB, with best-quality drugs and regimens, financial and nutritional support to patients, use of digital technologies for notification and adherence and linking with interface non-governmental agencies to strengthen private sector engagement.

***The National TB Elimination Programme’s ambitious National Strategic Plan (NSP)*** embraces bold strategies with commensurate resources to rapidly decline TB incidence and mortality. NTEP has instituted many innovations such as contracting of Patient Provider Support Agencies (PPSAs) to enhance engagement with the private sector, strengthening community engagement through TB Forums at the National, State and District levels, and integrating TB services across all levels in the Health System, including the Ayushman Bharat- Health & Wellness Centres, thereby, making TB an essential part of Comprehensive Primary Health Care.

The new initiatives taken at sub-national level to strengthen community level engagement and to make it a part of Comprehensive Primary Health Care:

- Through enhanced access to molecular diagnostics by decentralizing CBNAAT and TruNat services, India has enabled earlier detection of drug resistance.
- Through Active Case Finding, India has reached out to the unreached and vulnerable groups. Sub-national surveillance of TB and disease-free certification has been introduced, wherein States/Districts that have achieved significant reduction in incidence of TB from 2015 baselines were assessed and have been likewise awarded Bronze, Silver, Gold and even TB Free certifications.
- India has established TB Forums which provide a common platform to govt officials, physicians, civil society and representatives from patient groups to discuss all concerns pertaining to service delivery and patient care.

**Depth of Himalayan Glaciers:** A proposal has been initiated by National Centre for Polar and Ocean Research (NCPOR) Ministry of Earth Sciences to estimate thickness of Himalayan glaciers using innovative airborne radar surveys in collaboration with established Indian researchers in India and abroad.

- A pilot study is proposed in **Lahaul-Spiti basin** of Himachal Pradesh for customizing the technique and methods in initial phase followed by Airborne radar surveys across representative sub-basins of Indus, Ganga and Brahmaputra basins in the next phase.
- Different techniques like **geophysical techniques** and **Ground Penetrating Radar (GPR) profiling** have been employed for glacier depth assessment by Geological Survey of India (GSI). Indian Space Research Organization (ISRO) carries out Research and Development study to estimate thickness of major Himalayan glaciers using remote sensing based methods.

**DAE plans to rope in private agencies for Nuclear Medicine:** A research reactor dedicated to medical isotope production is envisaged to be executed under Public Private Partnership. In this partnership, Government through the Department of Atomic Energy, plans to extend support to the investors for processing and production of radioisotopes and radiopharmaceuticals both for diagnosis and therapy of cancer as well as functional evaluation of organs.

**Indigenously built Indian Naval Landing Craft Utility L58 Commissioned:** at Port Blair

- Will be deployed in a variety of roles such as Beaching, Search and Rescue, Disaster Relief, Coastal Patrol and Surveillance operations along the Andaman and Nicobar Group of Islands, Bay of Bengal and in the Indian Ocean.
- It will augment the Indian Navy's mobility, reach and flexibility, furthering the Andaman and Nicobar Command's motto, 'Victory through Jointness'.

**Policy on Liquefied Natural Gas:** To promote the usage and distribution of Liquefied Natural Gas (LNG), the Government has put LNG imports under Open General Licensing (OGL) category and establishment of LNG infrastructure, including LNG terminals is also under 100% FDI (automatic route).

- The government is also promoting usage of natural gas in gaseous/liquid (LNG) through expansion of gas infrastructure including City Gas Distribution, gas grid network and development/retro fitment of LNG based vehicles etc.
- As per American Petroleum Institute report on LNG operations and methodology, a typical LNG-fueled truck will have 90% lower NOx and PM emissions than diesel-fueled truck, 100% lower SOx emission, and 30% lower CO2 emissions.
- LNG is imported under OGL on mutually agreed terms between buyer and sellers on techno-commercial basis.

**Sub-Mission on Agroforestry (Har Medh Par Ped) Scheme:** Launched in 2016-17 to encourage tree plantation on farm land along with crops/ cropping system to help the farmers get additional income and make their farming systems more climate resilient and adaptive.

Under the scheme, assistance to farmers is given through State Govt. for nursery development, boundary plantation and block plantation of prominent tree species to promote, inter-alia, fruits bearing tree borne oilseeds, medicinal & aromatic plants, silk & lac rearing host plants, in addition to timber species, so that farmers get early returns.

**Manipur emerges as the model state for Van Dhan Vikas Yojana:** The Van Dhan Vikas Yojana is a programme for value addition, branding & marketing of Minor Forest Produces by establishing Van Dhan Kendras to facilitate creation of sustainable livelihoods for the forest-based tribes. One major scheme that has contributed to increasing employment and income generation among the tribal population is the Van Dhan tribal start-ups programme, a component of the The 'Mechanism for Marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) & Development of Value Chain for MFP' Scheme.

The focus of these initiatives is to make India self-reliant under the Atmanirbhar Abhiyan, with the motto, Go Vocal for Local Go Tribal – Mera Van Mera Dhan Mera Udyam. Manipur, in particular, which has emerged as the Champion state where the Van Dhan programme has emerged as a major source of employment for the local tribals

**Pradhan Mantri Kisan Maan Dhan Yojna (PMKMY) Scheme** aims to provide social security net for the Small and Marginal Farmers (SMF) by way of pension, as they have minimal or no savings to sustain their livelihood during their old age and to support them in the event of consequent loss of livelihood. Under this scheme, a minimum fixed pension of Rs.3,000/-per month will be provided to the eligible small and marginal farmers, subject to certain exclusion clauses, on attaining the age of 60 years. The Scheme is a voluntary and contributory pension scheme, with entry age of 18 to 40 years.

**Scheme for Women Farmers:** States and other Implementing Agencies to incur atleast 30% expenditure on women farmers. These schemes include Support to State Extension Programmes for Extension Reforms, National Food Security Mission, National Mission on Oilseed & Oil Palm, National Mission on Sustainable Agriculture, Sub-Mission for Seed and Planting Material, Sub-Mission on Agricultural Mechanization and Mission for Integrated Development of Horticulture.

- The Department of Rural Development, Ministry of Rural Development launched a specific scheme namely 'Mahila Kisan Sashaktikaran Pariyojana (MKSP)', as a subcomponent of DAY-NRLM (Deendayal Antyodaya Yojana — National Rural Livelihoods Mission). This scheme is being implemented since 2011 with the objective to empower women by making systematic investments to enhance their participation and productivity, as also create sustainable livelihoods of rural women. The program is implemented in project mode through State Rural Livelihoods Mission (SRLM) as Project Implementing Agencies.
- DAY-NRLM and its sub-component MKSP is a demand driven programme. Accordingly, based on the demand from State Rural Livelihoods Mission for implementation of MKSP through project mode.

- In order to familiarize women with the latest techniques in agriculture and allied sectors, trainings are being imparted to women farmers under schemes of Ministry of Agriculture & Farmers Welfare and Ministry of Rural Development.

**PM Atma Nirbhar Swasth Bharat Yojana:** The main interventions under the scheme to be achieved by FY 25-26 are:

1. Support for 17,788 rural Health and Wellness Centres in 10 High Focus States
  2. Establishing 11,024 urban Health and Wellness Centres in all the States.
  3. Setting up of Integrated Public Health Labs in all districts and 3382 Block Public Health Units in 11 High Focus states;
  4. Establishing Critical Care Hospital Blocks in 602 districts and 12 Central Institutions;
  5. Strengthening of the National Centre for Disease Control (NCDC), its 5 regional branches and 20 metropolitan health surveillance units;
  6. Expansion of the Integrated Health Information Portal to all States/UTs to connect all public health labs;
  7. vii. Operationalisation of 17 new Public Health Units and strengthening of 33 existing Public Health Units at Points of Entry, that is at 32 Airports, 11 Seaports and 7 landcrossings;
1.
    1. Setting up of 15 Health Emergency Operation Centres and 2 mobile hospitals; and
    2. Setting up of a national institution for One Health, a Regional Research Platform for WHO South East Asia Region, 9 Bio-Safety Level III laboratories and 4 regional National Institutes for Virology.

The measures under the scheme focus on developing capacities of health systems and institutions across the continuum of care at all levels viz. primary, secondary and tertiary and on preparing health systems in responding effectively to the current and future pandemics/disasters. The PMASBY targets to build an IT enabled disease surveillance system by developing a network of surveillance laboratories at block, district, regional and national levels, in Metropolitan areas & strengthening health units at the Points of Entry, for effectively detecting, investigating, preventing and combating Public Health Emergencies and Disease Outbreaks.

### **Rakhi Garhi Is Being Developed as One of The Five Identified Iconic Archaeological Sites**

- The ancient site of Rakhi-Khas and Rakhi-Shahpur are collectively known as Rakhigarhi, located on the right bank of now dried up Palaeo-channel of Drishadvati. Seven (07) mounds are located here. The site has yielded various stages of Harappan culture and is by far one of the largest Harappan sites in India. The site shows the sequential development of the Indus culture in the now dried up Saraswati basin.

- For development of the sites and its environs, repairing of boundary wall, pathways, public amenities, solar lights, benches are being provided. Excavation is also proposed at the site to showcase the archaeological remains in a holistic manner. In the union budget of 2020 it was announced that Five iconic archaeological sites located across five states will be developed. One of which is Rakhigarhi located in Hissar district, Haryana.

**Deep Ocean Mission:** The Deep Ocean Mission is proposed as multi-ministerial multi-disciplinary programme with emphasis on development of deep sea technology, exploration of deep sea mineral resources and biodiversity, acquisition of a research vessel for exploration, deep sea observations, and capacity building. Ministry of Earth Sciences is the nodal agency for implementing the programme. The major objectives proposed under Deep Ocean Mission are as follows:

1. Development of technologies for deep sea mining, underwater vehicles and underwater robotics;
2. Development of ocean climate change advisory services;
3. Technological innovations for exploration and conservation of deepsea biodiversity;
4. Deep ocean survey and exploration;
5. Proof of concept studies on energy and freshwater from the ocean; and
6. Establishing advanced marine station for ocean biology

**National Cyclone Risk Mitigation Project (NCRMP):** The overall objective of the Project is to undertake suitable structural and non-structural measures to mitigate the effects of cyclones in the coastal states and UTs of India. NDMA under the aegis of Ministry of Home Affairs (MHA) is implementing the Project in coordination with participating State Governments and the National Institute for Disaster Management (NIDM). The Project has identified 13 cyclone prone States and Union Territories (UTs), with varying levels of vulnerability.

The main objective of the NCRMP is to reduce vulnerability of coastal communities to cyclone and other hydro meteorological hazards through;

- Improved early warning dissemination systems
- Enhanced capacity of local communities to respond to disasters
- Improved access to emergency shelter, evacuation, and protection against wind storms, flooding and storm surge in high areas
- Strengthening DRM capacity at central, state and local levels in order to enable mainstreaming of risk mitigation measures into the overall development agenda

### **Gaganyaan programme envisages sending humans in space**

- Gaganyaan is the human space flight programme under which Indian astronauts will go into space by 2022. This will be done by using its own capabilities.
- A GSLV-Mk III launch vehicle will lift them to their orbit, which has the necessary payload capability to launch a three-member crew module in low earth orbit.

- If successful, India would become the fourth nation to conduct a human space flight programme after USSR/Russia, USA and China. It is a ₹10,000-crore Indian human space flight scheduled for 2022.
- India has signed agreements with Russia and France for cooperation on the Gaganyaan mission.
- DRDO signed MoUs with ISRO to offer technologies for the mission, including space food, survival kits for crew, radiation protection equipment and parachutes.

### **Schemes of Welfare Measures for Transgender Persons**

The Ministry of Social Justice & Empowerment has submitted a concept note for scheme of Welfare measures for Transgender Persons. The Ministry has given funds to National Backward Classes Finance & Development Corporation (NBCFDC) for conducting skill development of members of Transgender Community. So far, the corporation has sanctioned skill development training programmes for 330 members of transgender community to 7 Sector Skill Councils and Training Institutes. Funds have been also released to National Institute of Social Defence (NISD) for implementing various welfare programmes like setting up of pilot shelter homes, conducting workshops.

A composite scheme is being formulated for the welfare of Transgender Persons for which a concept note has already been submitted. Out of Rs 150.00 lakhs released to NBCFDC, Rs 118.05 lakhs has been used by Corporation, so far, for providing Subsistence Allowance/ration kits to 6,940 persons during Covid period. 16 health camps were organised wherein 1,240 transgender persons undertook medical consultation. A COVID helpline was setup for providing counselling to distressed callers from the transgender community during lock-down. NBCFDC also disbursed subsistence allowance of Rs.1500/- per person directly into the account of the 5,711 Transgender Persons left without livelihood due to COVID-19 lockdown.

National Institute of Social Defence (NISD) is setting up of 13 pilots of Garima Greh (Shelter Homes) for Transgender Persons. One Garima Greh has already been inaugurated at Vadodara, Gujarat. NISD has also conducted awareness generation programs on Drug Abuse Prevention for Transgender Persons.

### **Early Detection of Drug Problems and Action Taken To Address Them**

- Ministry of Social Justice and Empowerment implements the scheme of National Action Plan for Drug Demand Reduction under which financial assistance is provided to 'NGOs/VOs for running and maintenance of Integrated Rehabilitation Centres for Addicts (IRCA's), Community based peer Led intervention (CPLI) for early Drug Use Prevention among Adolescents and Outreach and Drop In Centres (ODIC) and Addiction treatment facilities (ATFs) in Government Hospitals'.
- The Ministry has launched Nasha Mukta Bharat Abhiyaan (NMBA) in 272 identified vulnerable districts with an aim to create awareness about ill effects of substance abuse among the youth, with special focus on higher education institutes, university campuses and schools and reaching out into the community and concerned States/UTs have been directed to launch their NMBA.



- Ministry has developed Navchetna Module to be followed in the schools for generating awareness among the children, teachers and parents about ill effect of substance abuse under the scheme of NAPDDR.
- Under Community Based Peer-Led Intervention (CPLI), focus has been placed on vulnerable and at risk children and adolescents in the community. Under the project, children aged between 10 to 18 years, are enrolled as peer educators who would in turn engage children in the community in awareness generation and life skills activities.
- The Outreach and Drop In Centres (ODICs) provide safe and secure drop-in space for substance users in the community. These centres have the provision of screening, assessment and counselling and thereafter provide referral and linkage to treatment and rehabilitation services for substance dependents.
- Ministry is taking all measures and actions needed to strengthen the mechanism for demand reduction and control of use of substances. Under Nasha Mukh Bharat Abhiyaan, several awareness generation and sensitization programs are being conducted in the identified 272 districts of the country.

To analyse the extent of drug abuse in the country, Ministry of Social Justice and empowerment has conducted the first National Survey on Extent and Pattern of Substance Use in India through the National Drug Dependence Treatment Centre (NDDTC) of the All India Institute of Medical Sciences (AIIMS), New Delhi during 2018.

- Alcohol is the most common psychoactive substance used by Indians followed by Cannabis and Opioids.
- About 16 Crore persons consume alcohol in the Country, 3.10 Crore individuals use cannabis products and 2.26 Crore use opioids.
- More than 5.70 Crore individuals are affected by harmful or dependent alcohol use and need help for their alcohol use problems, about 25 lakh suffer from cannabis dependence and approximately 77 lakh individuals are estimated to need help for their opioid use problems.

### **National Ayush Mission**

Under NAM, Grant-in-aid is being provided to State/UT Governments for development and promotion of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) as per their proposed State Annual Action Plans (SAAPs).

#### *Objectives*

*To provide cost effective AYUSH Services, with a universal access through upgrading AYUSH Hospitals and Dispensaries, co-location of AYUSH facilities at Primary Health Centres (PHCs), Community Health Centres (CHCs) and District Hospitals (DHs).*

To strengthen institutional capacity at the state level through upgrading AYUSH educational institutions, State Government Ayurveda, Siddha, Unani and Homoeopathy (ASU&H) Pharmacies, ASU & H Drug Testing Laboratories and enforcement mechanism.

Support cultivation of medicinal plants by adopting Good Agricultural Practices (GAPs) so as to provide sustained supply of quality raw-materials and support certification mechanism for quality standards, Good Agricultural/Collection/Storage Practices.

Support setting up of clusters through convergence of cultivation, warehousing, value addition, marketing and development of infrastructure for entrepreneurs.

**National Medicinal Plants Board:** Government of India has enacted the Biological Diversity Act, 2002 to regulate the access to biological resources and / or associated knowledge for certain activities the user of the biological resources needs to share the benefits in fair and equitable manner with the provider of the biological resources. Ministry of AYUSH is presently implementing Centrally Sponsored Scheme of National AYUSH Mission (NAM). Under ‘Medicinal Plants’ component of the NAM scheme supporting market driven cultivation of prioritized medicinal plants in identified cluster/zones with in selected districts of States and implemented in a mission mode throughout the country. As per the scheme guidelines, the support is provided for:

- Cultivation of prioritized medicinal plants on farmer’s land.
- Establishment of nurseries with backward linkages for raising and supply of quality planting material.
- Post-harvest management with forward linkages.

**Primary processing, marketing infrastructure etc.**

**Conservation of Ancient Folk Cultures:** To protect, preserve & promote various forms of folk art and ancient folk cultures throughout the country including Jharkhand, Bihar and Kerala, the Government of India has set up seven Zonal Cultural Centres (ZCCs).

- Ancient folk cultures being preserved in Jharkhand are Faguwa Nritya, Turi Nritya, Faguwa Nritya, Turi Nritya, Paika Nritya, Hodopathy, Tribal dance (Karam Nritya).
- Ancient folk cultures being preserved in Bihar are Lok Gatha “Reshma Chuhamal” (Begusarai), Lok Gatha “Bihula Bishari” (Purnia), Lok Gatha “Naradi” (Begusarai), Bidesia Lok Natya (Bhojpur region), Godana Painting (Madhubani), Lok Natya “Hirni-Birni” (Magadh region), Panwaria, Domkach & Sohar Khilona folk dance (All regions of Bihar State), Domkach folk dance (All regions of Bihar State), Jharni & Jhinjhia folk dance (Mithilanchal Area), Bidesia (Bhojpur Area), Bihar Ke Paramparik Natya (All regions of Bihar State), Drupad Dhamar, Godna Geet, Sikki Kala, Tikuli Art and Madhubani Painting.

- Ancient folk cultures being preserved in Kerala are Poorakali, Malayankettu & Kannerpattu (Kannur), Daffumuttu (Malabar), Kanyarkali (Thrissur) and Arabanaumuttu (Kozhikode)

### **Demise of Guru Chemancheri KunhIRaman Nair: A Kathakali maestro**

- **State:** Originating from Kerala, Kathakali is one of the eight classical dances of India
- Kathakali is a blend of dance, music and acting and dramatizes stories, which are mostly adapted from the Indian epics.
- The dance-drama of Kerala, Kathakali which originated in the 17th century, literally means story-play. Kathakali is practiced by only male dancers, and showcases stories of two epics Ramayana and Mahabharata.
- Aharya: Make-up is suited to character like Krishna and Rama wear special crowns decorated with peacock feathers.
- Todayam: It is a devotional number performed where one or two characters invoke the blessings of the gods
- Sopana sangeet: It is said to be the ritual singing of the Ashtapadis on the flight of steps leading to the sanctum sanctorum.
- Costumes: Unlike other dance forms, the use of elaborate makeup and costumes are central to Kathakali. They used to differentiate between different characters in story telling such as a Noble, a Royalty, an evil etc.
- Facial expressions: While most other dance forms like Bharatnatyam and Odissi focus on hand gestures and body postures, a Kathakali dancer emphasizes on their facial expressions instead to depict various emotions. Here body movements are specifically controlled.
- Music: Heavy use of drums to create an overwhelming and loud environment to showcase the conflict between good and evil. Most other dance forms such Kathak or Kuchipudi are accompanied by soothing music.
- The face of a Kathakali dancer: Logo of Kerala tourism

### **Namami Gange**

- Aims at providing comprehensive and sustainable solutions for a cleaner ecosystem along the stretch of 97 towns and 4,465 villages on the Ganga stem.
- Namami Gange is being implemented by the National Mission for Clean Ganga (NMCG), and its state counterparts—State Programme Management Groups.
- The project covers eight states and seeks to fully connect all 1,632 Gram Panchayats along the Ganga to a sanitation system by 2022.

### **About National Mission for Clean Ganga (NMCG)**

- It is the implementation wing of the National Ganga Council.
- It was established in the year 2011 as a registered society.
- It is under the Ministry of Jal Shakti.
- It has a two-tier management structure.
- It comprises of Governing Council and Executive Committee.

## **Objectives**

- To ensure effective control of pollution and rejuvenation of the river Ganga by adopting a river basin approach.
- To maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development.

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