

CURRENT AFFAIRS

WEEKLY

WEEK-4
AUGUST
2020

MAINS

- At least 23 million migrants are returning to India's villages. Can the rural economy keep up?

ECONOMY

- Concern about democracy in the digital age

- National Digital Health Mission, India's first step towards UHC

GOVERNANCE

- Tobacco behind more than a quarter of India's Cancer Cases

HEALTH

- Time for India & Nepal to make up

INTERNATIONAL RELATIONS

- India's Population is expected to be more Feminine in 2036

POPULATION ISSUES

PRELIMS

- Odisha to give facelift to 11th century Lingaraj Temple

ART & CULTURE

- India's forests and coal mining

BIODIVERSITY

- Did Death Valley just hit the highest temperature recorded ever

CLIMATE CHANGE

- Plastic pollution in Atlantic at least 10 times worse than thought

ENVIRONMENT

- Swachh Survekshan 2020

GOVERNANCE

- A row between Turkey and Greece raising tension in the eastern Mediterranean

INTERNATIONAL RELATIONS

- National Recruitment Agency

POLITY

- Bioethanol blending of petrol

- India ranks among lowest in terms of Internet quality

- The First World Solar Technology Summit

SCIENCE & TECHNOLOGY

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— **NOTE** —

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

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

CURRENT AFFAIRS ANALYST

WEEK- 4 (AUGUST, 2020)

CONTENTS

Section - A: MAINS CURRENT AFFAIRS		
Area of GS	Topics in News	Page No.
ECONOMY	• At least 23 million migrants are returning to India's villages. Can the rural economy keep up?	02
GOVERNANCE	• Concern about democracy in the digital age	05
	• National Digital Health Mission, India's first step towards UHC	08
HEALTH	• Tobacco behind more than a quarter of India's cancer cases	11
INTERNATIONAL RELATIONS	• Time for India and Nepal to make up	14
POPULATION ISSUES	• India's population is expected to be more feminine in 2036	16
Section - B: PRELIMS CURRENT AFFAIRS		
Area of GS	Topics in News	Page No.
ART & CULTURE	• Odisha to give facelift to 11th century Lingaraj Temple	20
BIODIVERSITY	• India's forests and coal mining	21
CLIMATE CHANGE	• Did Death Valley just hit the highest temperature recorded ever	23
ENVIRONMENT	• Plastic pollution in Atlantic at least 10 times worse than thought	24
GOVERNANCE	• Swachh Survekshan 2020	25
INTERNATIONAL RELATIONS	• A row between Turkey and Greece raising tension in the eastern Mediterranean	26
POLITY	• National Recruitment Agency	29
SCIENCE & TECHNOLOGY	• Bioethanol blending of petrol	30
	• India ranks among lowest in terms of Internet quality	31
	• The First World Solar Technology Summit	32

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SECTION: A

(MAINS)

CURRENT AFFAIRS

AT LEAST 23 MILLION MIGRANTS ARE RETURNING TO INDIA'S VILLAGES. CAN THE RURAL ECONOMY KEEP UP?

CONTEXT

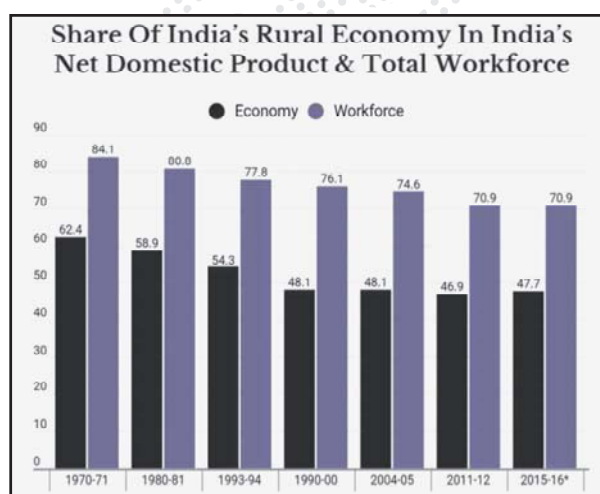
Covid-19 and the response to it in India has forced daily wagers and low-wage workers in urban slums to return to their villages, orchestrating an unprecedented U-turn in migration trends..

Assessing the challenges in absorbing migrant labour returning from urban areas

- Rural India is incapable of absorbing the estimated 23 million interstate and intrastate migrant labour who might return home from urban areas due to the Covid-19 lockdown. This is because the rural economy is already overburdened, excessively dependent on agriculture, and has widespread hidden underemployment. The challenges are as follow:

Hidden unemployment

- Contributing less than half – 48% – of India's net domestic product in 2015-'16, the rural economy supports 70% of India's population, according to National Account Statistics from 2017 and the government's latest labour survey from 2017-'18. This creates substandard living conditions in rural areas, with an annual per capita income of Rs 40,928 in 2015-'16, less than half the urban per capita income of Rs 98,435.
- The productivity of each person in rural India is low. About 71% of India's total workforce is in the rural economy but as the contribution to the economy is 48%, the productivity of the rural workforce is lower than that of the workforce in urban areas.



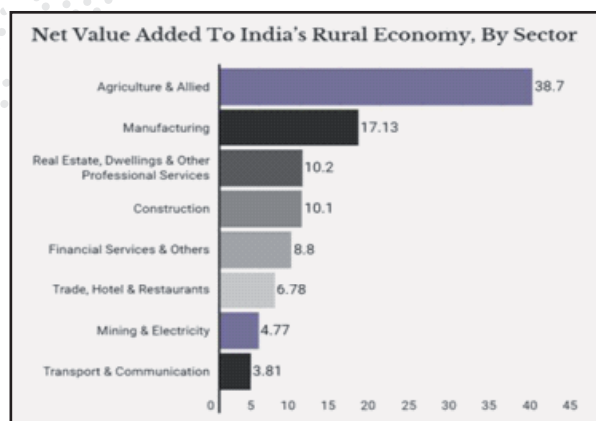
- The introduction of more capital and technology should improve labour productivity. But in rural

areas, labour productivity has instead slightly reduced over the years.

- The productivity gap in 1970-'71 was below 12%, which rose to about 13% in 2017-'18, data from the 2015-'16 national accounts and the 2017-'18 labour survey show. Despite the increase, this gap remains small, implying hidden underemployment. In such a situation, the rural economy cannot gainfully employ returning migrants.

Over-dependence on agriculture

- The rural economy is also over-reliant on agriculture and lacks diversification, due to which it will be unable to create more employment in rural areas. Agriculture is the predominant sector in India's rural economy, making up the largest part – 38.7% – of the 2015-'16 net domestic product.

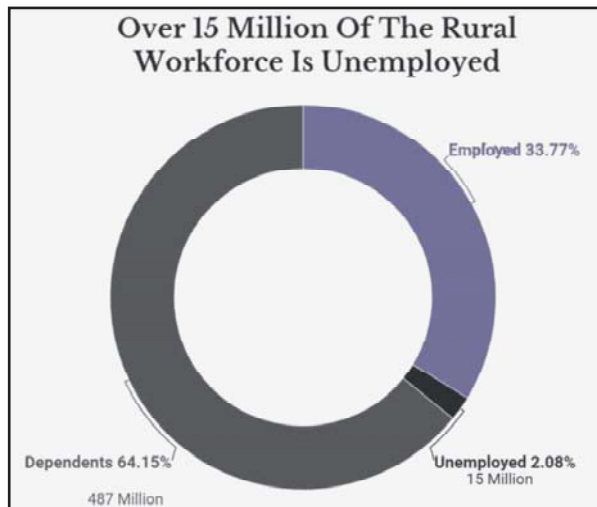


- Ordinarily, manufacturing, comprising 17% of the net domestic product, and construction, comprising 10%, could help absorb the additional labour in rural areas. But in India, although the share of manufacturing in the rural economy has grown to 17% in 2015-'16 from 5.9% in 1970-'71, and the sector itself has grown at an average rate of 15% between 2005 and 2012, it is not large enough to absorb returning migrants.

Stressed economy

- Just over a third, or 36%, of the rural population was working or available for work in 2017-'18, according to calculations from the Periodic Labour

Force Survey, based on the 365 days preceding the survey. The remaining 64% of the population—mostly children below the age of 14 years and the elderly—is dependent on them.



- Of those who are part of the labour force, 5.8% – 15.8 million – were unemployed for the major part, according to calculations based on data from the Periodic Labour Force Survey.
- Of those who were employed, only about 4.6% had regular salaries while about 90% did not even have a job contract. Most of the rural workforce does not have social security benefits that are available to organised sector workers.

Poorer states

- Those states that have higher out-migration also have higher unemployment, so that their economies will find it even more difficult to absorb returning migrants. Of all interstate migrants in India, 23% are from Uttar Pradesh and 14% from Bihar, according to data from Census 2011. The rural unemployment rate in these two states – 7% in Bihar and 6% in UP – is higher than the Indian average of 5.8%, according to the Periodic Labour Force Survey.
- Uttar Pradesh makes up about 15% of India's total rural unemployment and Bihar 10%. These two states are also marred by a high rate of rural poverty – 37% of India's poor live in Uttar Pradesh and Bihar.
- Besides Uttar Pradesh and Bihar, rural labour from other states such as West Bengal, Madhya Pradesh and Odisha migrates to Maharashtra, Gujarat, Punjab and other states for employment. Most of these source states are poor: 35% of the rural population lives below the poverty line in Odisha, 35.7% in Madhya Pradesh, and 22% in West Bengal.

Stimulus package to absorb surplus workforce in rural market

- The stimulus package under the Atmanirbhar Bharat initiative and allocations under other programmes for infrastructure development is expected to absorb a good part of regular and surplus (including returnee migrants) workforce in the rural market.
- The MSME sector, with a high capacity to accommodate labour, and having received a special government package, should take care of the skilled and semi-skilled workforce.
- Restarting the Mahatma Gandhi National Rural Employment Guarantee Scheme, more commonly known as MGNREGS- measure announced for Covid-19 relief – could help bring the rural economy back on track, but will not be enough to solve the reverse migration problem.
- There is also a continued need for social safety net programmes, such as the PDS to focus on the vulnerable sections of rural society. In this context, the "One Nation, One Ration card" policy can particularly be effective in enhancing food security of the most vulnerable migrants.

How rural growth can reverse migration?

- Rising urban demand for diverse foods can be tapped by smallholders to fuel rural employment growth.
- Demand for high-quality food is rising, and a small farm's income growth potential in producing diverse crops is higher than that of primary staples. Also, bringing post-harvest processing and value addition operations closer to food production centres can enhance employment opportunities.
- ICT and e-markets can further enhance farmer participation in high-value markets, where educated rural youth can manage smart technologies and management practices. Agri-tech start-ups may be incentivised to strengthen e-commerce and delivery linkages in rural landscapes.
- One nation, one market" policies, could pave the way for enhancing the market size and ensuring more stable food prices.
- MGNREGA is a demand-driven scheme that guarantees wage employment to volunteers prepared to do unskilled manual work. That notwithstanding, there is a provision for "unemployment allowance" in case employment cannot be provided. Awareness campaigns and civil society engagements may prove helpful in informing migrants.
- If productive assets like improved land, water harvesting structures, etc, are created in mission mode, it would, directly and indirectly, help rebuild the rural economy.

- A transparent land-lease market, backed by an institutional framework, would boost investments in the rural economy and increase the access of lessees to government entitlements like PM-KISAN, insurance/credit, etc.

◎ CONCLUSION:

Unlike many other sectors, agriculture has potential to revive the pandemic-hit economy. Spurring the

rural economic growth can become the saviour for the situation and taking care of the most vulnerable. Critical data on the migrant workforce would facilitate effective policymaking. The state of Madhya Pradesh has shown the way ahead by surveying returnee migrants and mapping their skillsets. Hence, creation of such databases across the country while linking to the Aadhaar stack to facilitate inclusive and affirmative government actions.

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SEPTEMBER

CONCERN ABOUT DEMOCRACY IN THE DIGITAL AGE

CONTEXT

In the times of digital age, information asymmetry has become so skewed that it has eroded the very spirit of democracy by limiting the unbiased communication of ideas.

◎ BACKGROUND

- At a time when the Internet is the new jazz and a tool as also a venue for all political hues, it is important to understand how government, political parties and citizens are responding to this new triangular interplay between data protection, privacy and a flow of information.
- When the Government of India banned 59 Chinese apps on the ground of transgressing Indian security, the question as to-
 - Why in the first instance were they allowed into India?
 - Was there no security or privacy audit?
 - While Facebook and Amazon are facing scrutiny on their own soil for their data mining policies, how did we allow so many apps without any check?
- Government policy on national security should be based on advance strategic assessment rather than on a reactive basis.

Segregating the Data

Data can be broadly classified into public data and personal data.

- Public data:** Public data is that which is accessible to the public at large, such as, Court records, birth records, death records, basic company details.
- Private data:** On the other hand, private data is personal to an individual/ organization and cannot freely be disseminated by anybody without the prior permission of the subject.
 - It includes financial details, family details, browsing details, preferences, psychological characteristics, locations and travel history, behavior, abilities, photographs, aptitudes, and the like.
 - It could also be a combination of these features or even inferences drawn from the refined data.

◎ ANALYSIS

The Changing Nature of Information

- Today, the way in which the internet allows data to be produced, collected, combined, shared, stored, and analyzed is constantly changing.
- This change is also re-defining personal data and what type of protections personal data deserves and can be given.
- From information shared on social media sites, to cookies collecting user browser history, to individuals transacting online, to mobile phones registering location data – information about an individual is generated through each use of the internet.
- In some cases the individual is aware that they are generating information and that it is being collected, but in many cases, the individual is unaware of the information trail that they are leaving online, do not know who is accessing the information, and do not have control over how their information is being handled, and for what purposes it is being used.

The Blurry Line between the Public and Private Sphere

- In India, the “sphere” of information on the internet is unclear.
- The information posted on social media
 - is public information – free for use by any individual or entity including law enforcement, employees, data mining companies etc.
 - or is private information, and thus requires authorization for further use.
- Authorization is not required for the lab to monitor individuals and their behavior, and individuals are not made aware of the same, as the project claims to analyze only publicly available information.

What's take of India's courts?

- The borderless nature of information flows over the Internet complicates online privacy, as individual's data is subjected to different levels of protection depending on which jurisdiction it is residing in.
- Indian Courts have yet to deal directly with the question of social media content being public or private information.

How private firms are exploiting the election process?

- Private data analytics companies have emerged to exploit the electoral process with the sole objective of customising political messaging.
- While the customisation of political messaging is not *per se* illegal, it certainly is unlawful to indulge in unauthorised data mining and collection by the industry.
- Many private enterprises routinely share the personal data of individuals with third parties including political organisations.
- The fact that there are dedicated IT cells which carry out a digital form of warfare with propaganda and fake news being two powerful weapons is making things more complicated.
- The present legal framework leaves these menaces outside the ambit of election laws as they were framed in a time and space that was primitive when compared to contemporary technological advancements.

Isn't "privacy" a fundamental right?

- On the privacy front, even after the Supreme Court of India had declared privacy as a fundamental right, the government insisted on affidavit in the top court that informational privacy or data privacy cannot be a fundamental right.
- Though the protection of personal data has been recognised as a fundamental right, there is an absence of law to effectively outline the state purpose in collecting such data and enforce, limit and balance the rights of citizens against the larger public interests.
- The Aadhar Act diluted the notion of 'privacy' and the standard of proportionality test set up by the Supreme Court.
- In an ongoing dilemma, even the 'Aarogya Setu' app is battling to satisfy the conscience of privacy overseers.
- The clear impression is that the government is more interested in 'control' than 'protection' of data.
- A national policy on data privacy of individuals is still a non-starter. People continue to suffer because of the regular incidents of data theft.
- India's cybersecurity watchdog, CERT-In, last year reported huge data theft of Facebook and Twitter users by malicious third party apps. Reportedly, more than 1.3 million credit and debit card details from Indian banks and the data of 6.8 million users from an Indian health-care website were stolen in the same year.

Justice K.S. Puttaswamy v. Union of India

- The notion of informational privacy has become salient in the past decade but, India has privacy jurisprudence going back several decades.
- Most of it focuses on privacy in the context of harms caused due to a violation of privacy.
- This jurisprudence changed in 2017, when the Supreme Court in **Justice K.S. Puttaswamy v. Union of India** held that the Indian Constitution included a **fundamental right to privacy**.
- While deciding the case, though the court listed a long line of jurisprudence, the central deficiency in the existing jurisprudence in the court's opinion was the lack of a "doctrinal formulation" that could help decide whether privacy is constitutionally protected.
- The jurisprudence on privacy therefore changed—from being valued as a right that protected other ends to being an end in itself. Along with holding that privacy is a fundamental right, the judgment also declared informational privacy to be a subset of the right to privacy.

Principle data protection legislation in India

- Currently, India does not have comprehensive and dedicated data protection legislation. Some provisions of the Information Technology Act, 2000 as amended from time to time and the Information Technology (Reasonable Security Practices and Procedure and Sensitive Personal Data or Information) Rules, 2011 (SPDI Rules).
- In December 2019, the government introduced the Personal Data Protection Bill, 2019, in parliament, which would create the first cross-sectoral legal framework for data protection in India.
- In addition to this, personal data is also protected under Article 21 of the Indian Constitution which guarantees to every citizen, the Right to Privacy as a fundamental right. The Supreme Court has held in a number of cases that information about a person and the right to access that information by that person is also covered within the ambit of right to privacy.

What's worsening the situation?

- More focus on control than protection:** The Personal Data Protection Bill, struggling to be born in Parliament despite conception in 2018, is more about control and surveillance than about promoting privacy and protection of data.
 - Far-reaching exemptions, in large measure swallowing the rule, have been carved out where personal data can be processed.

- ▶ Section 35, which provides the government with unfettered access to personal data, negates the three tests of legality, necessity and proportionality given by the Supreme Court in **Justice K.S. Puttaswamy (Retd.) vs Union Of India**.
- ▶ The Bill also allows State and private parties to process personal data without obtaining consent and such broad exemptions would not only open the floodgates for misuse but also reduce India's prospects of entering into bilateral arrangements for law enforcement access.
- **Wholly government controlled system:** Selection committees, terms of appointment and of removal establish beyond doubt that the Authority is likely to be like a rehabilitation centre for retired bureaucrats, yet a sinecure wholly controlled by the government. It is a classic case of rolling up judge, jury and executioner.

Assessing the impacts:

- **Re-tribalisation of politics:** Resultantly, "Information Superhighways" (coined by the U.S.'s "almost" President Al Gore) in democracy are leading to "re-tribalisation" of politics in cabals and cocoons while deliberations are fast transforming into 'consultations among computer systems' where trust and security are illusions.
- **Easy spread of fake news:** For citizens, digital media are carriers of images and sounds, rather than words and thoughts, and the system where images run faster than thoughts is suitable for the spread of fake news.
- **Disinformation:** Times of fear and uncertainty also provide a fertile ground for disinformation to grow. The fake WhatsApp forwards that triggered the primitive "Us v/s Them" group mentality and is manifested in Delhi riots reports, and the forwards on the novel coronavirus which declare COVID-19 a bacteria and the World Health Organization stating that vegetarians cannot be infected with COVID-19, are all reminders of the potency of data, true or false, in a democracy.

What needs to be done?

- **A balanced approach:** There need to be a gatekeeper to balance appetites for technology, security and privacy. So long as the gate keeper is for regulation, not surveillance, and so long as it is completely and genuinely independent.
- **Internet Ombudsman:** An Internet ombudsman with experts on cyber and Internet laws, IT,

data management, data science, data security, public administration and national security, and consciously involving eminent sections of civil society, can be an effective antidote to unregulated technological disruptions.

The need for constitutional entrenchment

- Any data protection body must be abundantly independent, especially in the manner of appointment of its members, conditions of their service and the manner of their removal.
 - ▶ They must not be appointees of the executive alone but must be appointed on the recommendation of a committee having bipartisan legislative representation and representatives from the judiciary – as is the case with the information commissions, the Central Vigilance Commission and the NHRC.
 - ▶ Their removal from office must only be allowed in the same manner as a judge of the Supreme Court and their salary must also be fixed similar to the CAG or an election commissioner.
 - Only a constitutionally entrenched body will be sufficiently protected from executive aggrandizement, political control and institutional capture, leading to a robust fourth branch institution – one which can act as an effective guardrail against violation of the right to privacy.
 - Incorporation of a full-fledged Data Protection Commission through a constitutional amendment must be envisaged by the legislature as a replacement for the DPA in its current form.
- **Usage of data with consent:** Data should not be collected and processed without consent. Businesses that violate this principle would also violate Indian constitutional norms of informational privacy, as well as the property interests of users.

◎ CONCLUSION

A country like India—with low levels of access to credit, insurance, and other financial services—may potentially make very different trade-offs between the need for such access on the one hand and the need for informational privacy on the other. Therefore, a law sanctioning collection of data and requiring the government to follow crucial data protection and surveillance principles is the need of the hour.

NATIONAL DIGITAL HEALTH MISSION, INDIA'S FIRST STEP TOWARDS UHC

CONTEXT

On the occasion of 74th Independence Day, the Government announced a national health ID for every India. The development is envisioned as India's first step towards 'Universal Health Coverage'.

◎ BACKGROUND

- The ambitious National Digital Health Mission finds its roots in a 2018 Niti Aayog proposal to create a centralised mechanism to uniquely identify every participating user in the National Health Stack.
- The blueprint of the programme was launched last year. It seeks to provide an efficient and affordable health coverage through a wide-range of data and infrastructure services.
- According to its strategy document, the NDHM's vision is:
 - "To create a national digital health ecosystem that supports universal health coverage in an efficient, accessible, inclusive, affordable, timely and safe manner, that provides a wide-range of data, information and infrastructure services, duly leveraging open, interoperable, standards-based digital systems, and ensures the security, confidentiality and privacy of health-related personal information."
- In 2015, efforts to augment digital health infrastructure were initiated with the 'Digital India' movement.
- Yet, it was the COVID-19 pandemic that necessitated rapid adoption.
- been given the mandate by the Government of India to design, build, roll-out and implement the NDHM in the country.
- It is an ambitious plan to create a digital infrastructure for health care delivery, which will include personal health IDs and e-records for citizens.
- **Building blocks:** The NDHM comprises six key building blocks or digital systems to enable access to timely, safe and affordable healthcare through a 'citizen-centric' approach, namely-
 - ▶ HealthID
 - ▶ DigiDoctor
 - ▶ Health Facility Registry
 - ▶ Personal Health Records
 - ▶ e-Pharmacy
 - ▶ Telemedicine
- The key feature of this mission is the technology part - it will leverage open digital systems to provide high-quality healthcare for all.
- It will integrate various digital health services to create an ecosystem which can assimilate existing health information systems.

◎ ANALYSIS

What is the National Digital Health Mission?

- The National Digital Health Mission is a digital health ecosystem under which every Indian citizen will now have **unique health IDs**, digitised health records with identifiers for doctors and health facilities.
- The mission comes under the **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY)**.
- **National Health Authority (NHA)**, the attached office of the **Ministry of Health & Family Welfare** and the apex Central Government agency responsible for the implementation of Ayushman Bharat Pradhan Mantri Jan Arogya Yojana, has

Governance structure

- The mission will keep two separate arms, according to the National Digital Health blueprint.
 - ▶ One arm will be for regulation
 - ▶ One for implementation and operational management.
- The Group will oversee and guide the NDHM. Its members will include ministers of women and child development, social justice and empowerment, AYUSH and information technology, the principal scientific advisor, Member Health (NITI Aayog), secretaries of health, expenditure and information technology, the National Health Authority (NHA) CEO and others.

- **Empowered Committee:** An Empowered Committee will be set up under the chairpersonship of the health secretary, that will take necessary policy-level decisions, help the mission with coordination with different stakeholders and engagement with different ministries and departments to ensure their participation.
 - ▶ Its members will include NITI Aayog CEO, secretaries of women and child development, social justice & empowerment, MeitY, AYUSH, and expenditure as well as NHA CEO and directors general of health services and the National Informatics Centre.

What is a Health ID?

- As per the National Health Authority (NHA), every patient who wishes to have their health records available digitally must start by creating a unique Health ID.
- The health ID will contain information about medical data, prescriptions and diagnostic reports, and summaries of previous discharge from hospitals for ailments.
- Each Health ID will be linked to a health data consent manager — such as **National Digital Health Mission (NDHM)** — which will be used to seek the patient's consent and allow for seamless flow of health information from the Personal Health Records module.
- This ID is to be created by using a person's basic details and mobile number or Aadhaar number.
- The health ID will reportedly be in the form of a mobile application.
- Will the Health ID be mandatory?
- The health ID will not be mandatory.
- Although the government hopes that the feature will attract more users to it since it allows a person online access to all their health records right from birth.

Categorisation of Health Data

The document categorises health data into three distinct layers.

- **Electronic Medical Records (EMR)** — This refers to systems that are used within a hospital or a clinic to support patient diagnosis and treatment and are transaction focused. NDHM requires these systems to be updated to support standards and provide access to patients' data.

- **Electronic Health Records (EHR)** — EHRs contain records for a patient across multiple doctors and providers and is used within a Healthcare system (like say across a state government) to provide better care for patients.
- **Personal Health Records (PHR)** — PHRs enable patients to compile, update and keep a copy of their own records that can help them better manage their care and are person focussed.
- It will not be possible to have access to digital health records without creation of a health ID.

Where will the Health ID be applicable?

- The ID will reportedly be applicable across states, hospitals, diagnostic laboratories, and pharmacies.
- According to its strategy document, the NDHM will pilot the mission in Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli and Daman & Diu, Lakshadweep, Ladakh, and Puducherry.

What about data privacy?

- Personal data, especially health data, is sensitive, and its privacy must be protected.
- The government has assured that the data provided will be protected and health records will only be shared after authorisation by an individual.
- The NDHM's document also states that health records will be accessible and shareable by the patient with appropriate consent and complete control of the records will remain with the patient.
- The mission will also require doctors/hospitals to upload a digital copy of any health reports being physically shared with the patient to enable the creation of health records.
- An appropriate digital consent framework as per standards specified by NDHB (leveraging DigiLocker consent management framework to the extent possible) will be adopted for consent management.

India and its health sector

- India is a large, growing country and its health care needs are immense. Advanced health care expertise is concentrated in large cities whereas a large population with health care needs is geographically distant from such expertise and facilities.
- Not everyone can get admitted to the All India Institute of Medical Sciences at short notice not only because such capacity is limited but also because costs and time constraints prevent most from being able to access such care.

- Tele-medicine can alleviate these limitations to a great extent. If the patient cannot reach the right doctor or the right facilities, the doctor can reach the patient through tele-medicine and test-results can be communicated electronically with speed.
- Only a fraction of the patients would need to be moved to facilities far away from home, and while the patient travels, the diagnosis, some palliative care and tests can continue seamlessly without interruption.

Key-roadblocks for India's healthcare industry:

- **Population:** India has the world's second-largest population, rising from 760 million in 1985 to an estimated 1.3 billion in 2015.
- **Infrastructure:** The existing healthcare infrastructure is just not enough to meet the needs of the population. The central and state governments do offer universal healthcare services and free treatment and essential drugs at government hospitals. However, the hospitals are, as we said, understaffed and under-financed, forcing patients to visit private medical practitioners and hospitals.
- **Insurance:** India has one of the lowest per capita healthcare expenditures in the world. Government contribution to insurance stands at roughly 32 percent, as opposed to 83.5 percent in the UK. The high out-of-pocket expenses in India stem from the fact that 76 percent of Indians do not have health insurance.
- **Rural-urban disparity:** The rural healthcare infrastructure is three-tiered and includes a sub-center, primary health centre (PHC) and CHC. PHCs are short of more than 3,000 doctors, with the shortage up by 200 per cent over the last 10 years to 27,421.

There are, however, potential catalysts to improve the quality of healthcare in India.

Significance of the NDHM

- **More efficient, effective and transparent system:** The National Digital Health Mission (NDHM), which comes under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY), is expected to improve the efficiency, effectiveness, and transparency of health services in the country.
- **A big revolution in health sector:** The health ID will store every individual's medical records and the Mission will herald a new revolution in the health sector.
- **Facilitation of health data:** This will greatly facilitate tele-medicine, e-pharmacy, and collection, consolidation and inter-operability of health data.
- **Achieving the SDGs:** It will be a major stride towards achievement of the United Nations Sustainable Development Goal 3.8 of Universal Health Coverage, including financial risk protection.

◎ CONCLUSION:

Universal Healthcare (UHC) by 2030 is a pivotal commitment for India, as it impacts achievement of all other SDGs. In this regard, the National Digital Health Mission is a holistic, voluntary healthcare programme that will effectively reduce the existing gap between various stakeholders such as doctors, hospitals and other healthcare providers, pharmacies, insurance companies, and citizens by bringing them together and connecting them in an integrated digital health infrastructure.

TOBACCO BEHIND MORE THAN A QUARTER OF INDIA'S CANCER CASES

CONTEXT

Tobacco-related cancers constitute the highest burden among all types of the disease in India. As many as 27 per cent of cancer cases were caused due to tobacco consumption, according to a new report released by the National Cancer Registry of India (NCRI).

◎ BACKGROUND

- Cancer is the second leading cause of death globally. According to the World Health Organisation (WHO), cancer accounted for an estimated 9.6 million deaths, or one in six deaths, in 2018.
- The most common types of cancer in men are lung, prostate, colorectal, stomach and liver cancer while breast, colorectal, lung, cervical and thyroid cancer are the most common types among women.
- In a recent report, WHO warned that the world may witness a 60% increase in cancer cases over the next two decades if the current trend continues.
- The latest estimates of the **National Cancer Registry Programme Report 2020** are released by the ICMR in association with National Centre for Disease Informatics & Research (NCDIR) Bengaluru.
- The report released the cancer prevalence landscape by taking into account cases registered from 2012-2016.
 - The report estimates that tobacco-related cancers will contribute 3.7 lakh (27.1 per cent) of the total cancer burden in 2020.
 - Cancers related to use of any form of tobacco were highest in the northeastern region of the country and in higher proportion in men.
- Earlier this year, a WHO report had also revealed a high burden of tobacco-related head and neck cancers in India, particularly oral cancer in men and of cervical cancer in women.
- Both of these cancer types are associated with lower socioeconomic status, the WHO report stated.
- Cancer is when the cells start to grow out of control.
- The cancer cells keep on growing and making new cells. They crowd out normal cells. This causes problems in the part of the body where the cancer started.
- Simply put, Cancer is the uncontrolled growth of abnormal cells anywhere in a body.
- Cells become cancerous due to the accumulation of defects, or mutations, in their DNA. Certain:
 - inherited genetic defects (for example, BRCA1 and BRCA2 mutations),
 - infections,
 - environmental factors (for example, air pollution), and
 - poor lifestyle choices -- such as smoking and heavy alcohol use -- can also damage DNA and lead to cancer.

Tumor

- Most cancers form a lump called a tumor or a growth. But not all lumps are cancer. Doctors take out a piece of the lump and look at it to find out if it's cancer.
- Lumps that are not cancer are called benign (be-NINE). Lumps that are cancer are called malignant (muh-LIG-nunt).
- There are some cancers, like leukemia (cancer of the blood), that don't form tumors. They grow in the blood cells or other cells of the body.

Types of Cancer

- **Carcinoma** is a cancer that starts in the skin or the tissues that line other organs.
 - **Lung cancer:** A cancer that begins in the lungs and most often occurs in people who smoke.
 - **Breast Cancer:** A cancer that forms in the cells of the breasts.
 - **Prostate cancer:** A cancer in a man's prostate, a small walnut sized gland that produce seminal fluid.

◎ ANALYSIS

Cancer Basics

- The cells in our bodies all have certain jobs to do. Normal cells divide in an orderly way. They die when they are worn out or damaged, and new cells take their place.

- **Sarcoma** is a cancer of connective tissues such as bones, muscles, cartilage, and blood vessels.
- **Leukemia** is a cancer of bone marrow, which creates blood cells.
- **Lymphoma** and **myeloma** are cancers of the immune system.
- **Brain and spinal cord cancers** – these are known as central nervous system cancers

Key-Highlights of the Report

- The estimates of the National Cancer Registry Programme Report 2020 projected that cancers will rise by 12 per cent to 1,569,793 cases in 2025, from 1,392,179 in 2020.
- The report has included data from 28 **population-based cancer registries (PBCRs)** and 58 **hospital-based cancer registries (HBCRs)** in India.
- The PBCR takes into account, the number of cancer cases in a given geographical unit, for instance, Delhi. It can be a district or even a state.
- The HBCR takes into account, the number of cases that go to a particular hospital irrespective of their geographical background.
- The PBCR in Delhi registered the maximum number of cases (60,097), followed by Mumbai (53,714), Chennai (31,271), Bengaluru (29,049) and Thiruvananthapuram (27,833).

National Cancer Registry of India

- The Indian Council of Medical Research set up the National Cancer Registry Programme (NCRP) in 1982.
- The programme is overseen by the ICMR National Centre for Disease Informatics & Research (NCDIR), Bengaluru.
- A network of population and hospital-based cancer registries (PBCR, HBCR) systematically collect data related to cancer incidence, mortality and clinical aspects to estimate burden, trends, survival and management.

The most common cancer types

- Gastro-intestinal tract cancers (19.7 per cent) and breast cancer (14.8 per cent) are the other most prevalent cancers in India.
- Lymphoid and haematopoietic malignancies (immune system and blood cancers), cervix cancers and ovarian cancers are the other common cancers in India.
- **Most common among male:** The cancers of the lungs, mouth, stomach and oesophagus.
 - Mizoram's Aizawl district topped in terms of cancer incidence per 100,000 population in males, followed by the districts of East Khasi

Hills in Meghalaya and Kamrup in Assam, the state of Mizoram, Papum Pare district in Arunachal Pradesh, Meghalaya state, Delhi, Thiruvananthapuram district in Kerala and Cachar district in Assam.

- **Most common among female:** Cancers of the breast and cervix uteri.
 - Papum Pare had the worst cancer rate for females, followed by Aizawl, Mizoram, Kamrup, Bengaluru, Delhi, Hyderabad and Chennai.
- Mouth cancers were the leading cancers in eight sites: The districts of Ahmedabad Urban, Aurangabad, Osmanabad & Beed, Barshi Rural, Pune, Wardha, Bhopal and Nagpur.
- Lung cancer was the leading cancer in eight other sites including the state of Delhi and the districts of Kollam, Thiruvananthapuram, Bengaluru, Chennai and Kolkata.
- The former is believed to be mostly caused by **chewable tobacco** and the latter by **smoked tobacco**. Thus, 16 out of 28 sites were affected directly because of tobacco in one or the other form.
- Overall, lung and head and neck cancers were on the rise while stomach cancers were on the decline.
- Breast cancers were leading female cancers in 19 out of 28 sites. In the remaining sites, cervix cancer was leading. Overall, while breast cancers witnessed a significant upward trend, cervix cancer cases declined.
- Childhood cancers are also on the rise. The Delhi PBCR recorded the highest proportion of childhood cancers in both the 0-14 years (3.7 per cent) and the 0-19 years age group (4.9 per cent).
- From the HBCR data, leukaemia was the most common diagnosis of cancer, both in the 0-14 (boys, 46.4 per cent; girls, 44.3 per cent) and in the 0-19 age group (boys, 43.2 per cent; girls, 39.2 per cent).

Is Cancer a notifiable disease?

- Majority of states in India have not declared cancer as a notifiable disease.
- So far, only nine States in India have cancer as a notifiable disease so far either as administrative order or Gazette notification, including Karnataka.
 - A notifiable disease is any disease that is required by law to be reported to government authorities. The collation of information allows the authorities to monitor the disease, and provides early warning of possible outbreaks.

How Tobacco is killing people?

- Tobacco use, including smokeless tobacco products, are linked to various types of cancer, including cancer of the lung, larynx (voice box), mouth, esophagus, throat, bladder, kidney, liver, stomach, pancreas, colon and rectum, and cervix, as well as acute myeloid leukemia.
- Tobacco has been described by WHO as "the single greatest cause of preventable disease in the developed world".
- It has been universally regarded that Tobacco is one of the major health hazards and is responsible directly or indirectly for an estimated 8 lakh deaths annually in the country.
- There are 4000 chemicals, 200 of which are poison and 69 certified carcinogens in tobacco.
- When one smokes, these toxic chemicals pass through lungs and are absorbed into bloodstream and carried around body.
- Every cigarette is an elaborate chemical factory, designed to cause damage and affect every organ in body.
- Poisons in cigarette smoke can weaken the body's immune system, making it harder to kill cancer cells. When this happens, cancer cells keep growing without being stopped.
- Poisons in tobacco smoke can damage or change a cell's DNA.
 - DNA is the cell's "instruction manual" that controls a cell's normal growth and function.
- When DNA is damaged, a cell can begin growing out of control and create a cancer tumor.
- Toxic gases damage the cilia, while Tar, the solid particle in tobacco smoke coats lungs like soot in a chimney. Some chemicals in your cigarette are:

- Ammonia – commonly used in toilet cleaners
- Cyanide – used as rat poison
- Formal de hyde – used in laboratories for preservation of dead specimens
- Nicotine – "the Hook", habit forming, addictive drug

Interventions to prevent cancer

- Controlling tobacco use (responsible for 25% of cancer deaths)
- Vaccinating against hepatitis B to prevent liver cancer
- Eliminating cervical cancer by vaccinating against HPV
- Screening and treatment
- Implementing high-impact cancer management interventions that bring value for money
- Ensuring access to palliative care including pain relief.

CONCLUSION

In order to change the current cancer landscape in India, cancer care needs to be embedded in the community through a distributed care delivery system. In order to achieve these goals, innovation in a model of distributed cancer care, intensive efforts towards cancer prevention and early detection, and radical new policies on procurement and pricing of medical consumables and drugs are just a few measures that are necessary to make cancer care accessible and affordable in India and other LMICs.

TIME FOR INDIA AND NEPAL TO MAKE UP

CONTEXT

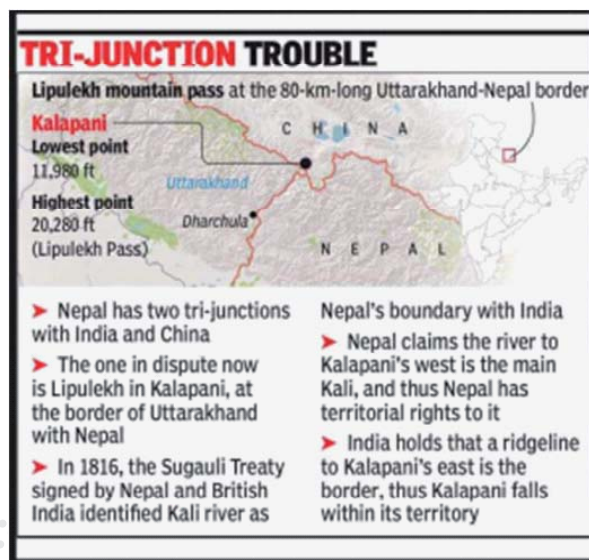
Delhi has begun a long-overdue outreach to Nepal with whom relations have been uneven in recent months.

◎ ABOUT:

- Prime Minister Narendra Modi and his Nepal counterpart Khadga Prasad Sharma Oli spoke with each other in a prelude to meeting between officials of both sides to discuss the territorial spat over the Lipulekh-Limpiyadhura-Kalapani trijunction.
- India and Nepal agreed to speed up work on bilateral projects, including infrastructure schemes and cross-border rail links, as senior officials of the two sides held a meeting for the first time since a border row strained ties.
- In that connection, they agreed to undertake necessary measures to timely address problems and obstacles in the course of implementation.
- This was the eighth meeting of the mechanism, set up in 2016 to monitor the progress of India-funded projects, and it carried out a comprehensive review of economic and development cooperation schemes since the last meeting in July 2019.

What went wrong in relation?

- Madhesi Issue:** Nepal promulgated its new Constitution in 2015 but the Madhesis, the Janajatis and the Tharus, who is considered as the marginalized groups felt they were being left out in the new constitution. These groups, Madhesi in particular, then blocked the border points. The Nepalese government accused India of deliberately worsening the embargo by not allowing vehicles to pass from check-points where no protests were held. Indian government however denied all allegations of any involvement in the blockade.
- Political map issue:** 2019 After the abrogation of Article 370 in Jammu and Kashmir, India released its updated political map in which Kalapani, close to Lipulekh pass was shown in Indian Territory as it always was, suddenly Nepal protested officially and stated it's a disputed territory and New Delhi has no right to include the area in India.
- 2020 May 8, India's defence minister virtually inaugurated a new 80 km-long road in the Himalayas, connecting to the border with China, at the Lipulekh pass. The Nepali government protested immediately, contending that the road crosses territory that it claims and accusing India of changing the status quo without diplomatic consultations.



- June 13th and 14th, 2020 The Lower House of Nepal's Parliament unanimously passed the historic Second Constitution Amendment Bill guaranteeing legal status for the updated political map of Nepal which includes Limpiyadhura, Kalapani and strategically important Lipulekh Pass which were India's territories in Uttarakhand's Pithoragarh district.

Growing Chinese Influence in Nepal: Threats and Challenges

- While India has its roots in Nepal through cultural ties and soft power, China has been ambitiously establishing relations with the landlocked nation through economic diplomacy.
- It is felt in India that the Chinese inroads into Nepal are necessarily to counterbalance the Indian influence in Nepal. However, Nepal has asserted that its relationship with China is purely economic and will not be hurting the Indian strategic interests in any way.
- Further, it is believed by India that the rising Nepal and China cooperation would undermine Nepal's distinction of buffer state between India and China.
- As a result of the economic blockade between India and Nepal in 2015, the latter turned to China to seek help in meeting its energy demands. Quick to grab the opportunity, China provided 33 per cent of the country's fuel requirements, also allowing Nepal to use four of its seaports and three land ports.

- In recent times, to cope up with the Chinese dominance in the region, South Asia's first ever transnational oil pipeline was launched from India's Motihari district in Bihar to Amlekhgunj in Nepal.
- Beijing has lured Nepal's private schools to offer Mandarin as a language in exchange for the Chinese covering the salaries of teachers in those schools. This coincides with China's ambitious Belt and Road Initiative in Nepal.
- China is successfully delivering several infrastructure projects in Nepal. It is building a new airport in Pokhara to encourage tourism, a Himalayan railway line that plans to connect Kathmandu to Lhasa, hydroelectric projects, to name a few.
- The Kathmandu-Lhasa railway line will establish a solid physical connectivity too, allowing Kathmandu to be flooded with Chinese goods, destroying medium and small scale industries- both in Nepal and India.
- India's ability to complete infrastructure projects on time has remained dismal. The Chinese on the other hand are exceptional with their engineering marvel.
- The importance of hydroelectric projects in Nepal is humongous. China has been assisting Nepal in that field too, by allowing them to generate more hydropower than before.

◎ **WAY FORWARD:**

- India and Nepal have had the most progressive relations in South Asia, with open borders and a free intermingling of people, almost European in vision and scope. The sooner India settles this dispute with Nepal, the lesser the chances for China to get involved.
- India-Nepal border issues appear more easily solvable, so long as there is political goodwill and statecraft exercised on both sides. The way to move forward is to formally approve the strip maps, resolve the two remaining disputes, demarcate the entire India-Nepal boundary, and speedily execute the work of boundary maintenance.
- There is an immediate need to deescalate and compartmentalise. The first requires verbal restraint on the part of Prime Minister Oli and India's willingness to talk even as the pandemic continues.

◎ **CONCLUSION:**

Based on their history of friendly relations and driven by pragmatism, it should not be difficult for India and Nepal to think out of the box and find a practical solution. Delhi and Kathmandu could lead the way to liberate the subcontinent from the sovereignist, nationalist and territorial logic that continues to leave everyone in the region worse off.

INDIA'S POPULATION IS EXPECTED TO BE MORE FEMININE IN 2036

CONTEXT

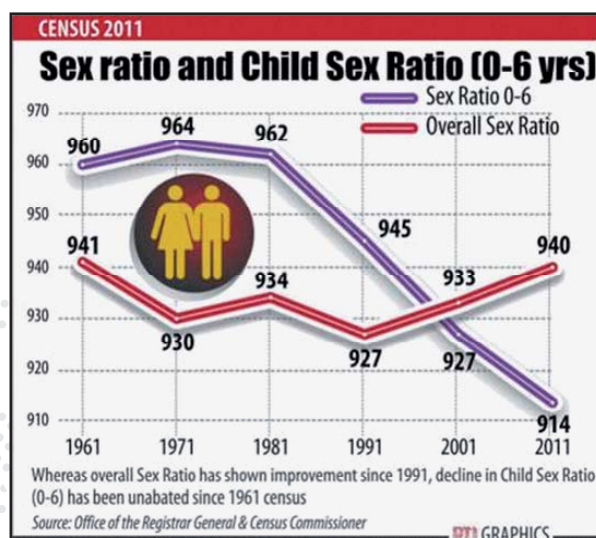
The country's sex ratio of the total population (females per 1000 males) is expected to increase from 943 in 2011 to 957 during 2036.

ABOUT:

- India's population is expected to be more feminine and hold better future for women after 15 years from now, indicated the population projections made by **the National Commission on Population** under Ministry of Health and Family Welfare.
- The report of the technical group on population projections titled population projections for India and States 2011 – 2036 has observed that the population in 2036 is expected to be more feminine compared to the population as of 2011 when it came to sex ratio.
- It is observed that in 2036 sex ratio in eighteen states, except Kerala, Karnataka, Maharashtra and Gujarat will increase as compared to 2011," the report said adding that the lowest sex ratio of 899 is expected to be in NCT of Delhi in 2036, followed by 900 and 908 in Gujarat and Haryana respectively.
- Infant mortality rate (IMR):** The report said that the infant mortality rate (IMR) of the country, which is reported to be 46 in 2010 is expected to go down to 30 by the end of the period 2031-35. The IMR is expected to decline in all the states during 2011-35. The IMR, which was highest in Madhya Pradesh at 58 followed by 57 in Uttar Pradesh in 2011-15 is expected to come down to 37 in Madhya Pradesh, followed by Uttar Pradesh (38) in 2031-35, the report said.
- Other states, where IMRs are expected to be in the range of 30-40 during 2031-35 are Rajasthan, Assam, Odisha, Chhattisgarh, Madhya Pradesh and Uttar Pradesh. The lowest IMR is expected to be in Kerala at 9 in 2031-35. It will be followed by Tamil Nadu with IMR declining from 22 in 2011-15 to 16 during 2031-35, the report said indicating that lesser women will be losing their children.
- Total Fertility Rate (TFR):** The report also said that the Total Fertility Rate (TFR) is expected to decline from 2.34 during 2011-2015 to 1.72 during 2031-35. The assumption is that the Total Fertility Rate (TFR) would follow the recent pace of decline.
- Reasons:** Over the decades, efforts made by the government have adopted a multi-pronged strategy to promote the value of the girl child, not just through schemes and programmes, such as

Beti Bachao Beti Padhao, but awareness generation to build a positive environment for women and girls.

Sex ratio in India:



Reasons for declination of sex ratio:

- Female Foeticide
- Son Preference & Daughter Aversion
- Post Birth Sex Selection
- Social Attitude & Perceptions
- Lack of education & Awareness
- Demographic
- Commercial
- Logical




Measures taken to improve sex ratio in India

- Government has adopted a multi-pronged strategy entailing schemes, programmes, and awareness generation/advocacy measures, to build a positive environment to save and protect the girl child through gender sensitive policies, provision and legislation.
- Further, under the National Rural Health Mission (NRHM) and within its umbrella the Reproductive

and Child Health Programme, many interventions have been launched to improve sex ratio.

- For prohibition of sex selection, before and after conception, and for regulation of prenatal diagnostic techniques, the Government has enacted a comprehensive legislation, the Pre-conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act in 1994. It was further amended in 2003.
- The National Inspection and Monitoring Committee (NIMC) have been reconstituted and inspections of ultrasound diagnostic facilities have been intensified.
- States have been advised to focus on Districts/Blocks/Villages with low Child Sex Ratio to ascertain the causes, plan appropriate Behaviour Change Communication campaigns and effectively implement provisions of the PC & PNDT Act.

- Religious leaders, women achievers etc. are being involved in the campaign against skewed child sex ratio and discrimination of the girl child.
- Beti Bacho Beti Padhao (BBBP) to improve the Child Sex Ratio and enabling education for the girl children.

◎ **CONCLUSION:**

Although the report suggests that India's population is expected to be more feminine and hold better future for women but the target is yet to achieve. To correct the persistence in adverse sex ratio, the need is to change the mindset and attitudes of people, especially young adults. The war against female foeticide, infanticide and girl child discrimination can be won only if we start this war from our own home. Once we are awake, girls are safe.


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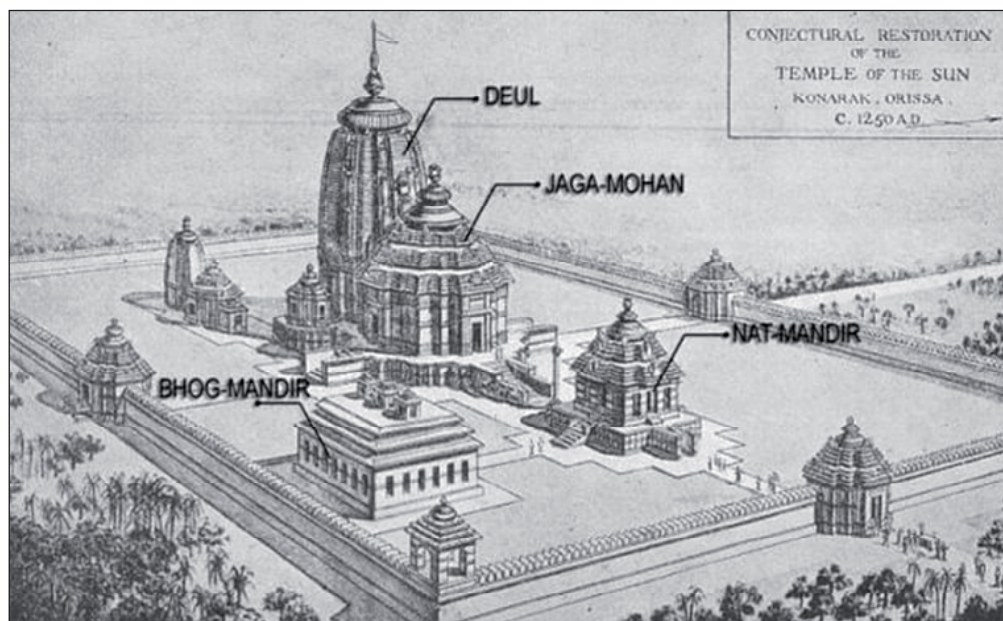
ODISHA TO GIVE FACELIFT TO 11th CENTURY LINGARAJ TEMPLE

- © **CONTEXT:**
- The Odisha government announced to give a facelift to the 11th century Lingaraj Temple, akin to its pre-350-year structural status.
- © **ABOUT:**
- Odisha's Lingaraj temple is dedicated to Lord Shiva, who is also known as 'Lingaraj'.
 - It is approximately 54.8 metres high and enshrines a huge statue of Lord Shiva which is 8 feet in diameter and is made of granite.
 - The deity is bathed everyday with milk, water and bhang (marijuana).
 - It is believed that the temple's construction history dates back to the later half of 11th century.
 - The temple comprises four parts namely the main temple-
 - the 'Garbh Griha'
 - the 'Bhoga Mandap'
 - the 'Yajna Shala'
 - the 'Natya Shala'
 - Bindusagar, the sacred pond near the temple, has a unique connection with Lord Lingaraj. It is the second most attractive place after the temple as religious scriptures say Bindusagar is the union of drops of water from various sacred rivers of India.
 - Its main entry gate is called as the 'Simhadwara' or the 'Lions' Gate', situated on the eastern side of the temple. The outer walls of the temple are decorated with beautiful sculptures of beasts, birds, creepers, flowers, gods and goddesses.

Important Details	
Location	Bhubaneswar, Orissa
Built by	Jajati Keshari
Built in	11 th Century
Dedicated to	Lord Shiva
Total Area	1049.66 sq m
Architectural Style	Kalinga style of architecture

Architecture

- The remarkable structure of the temple gives the tint of **Kalinga style of architecture**.
- The temple is believed to be built by the kings from the **Somavamsi dynasty**, with later additions from the **Ganga rulers**.
- It is built in the **Deula style** that has four components, each increasing in the height to its predecessor, namely-
 - vimana (structure containing the sanctum)
 - jagamohana (assembly hall)
 - natamandira (festival hall)
 - bhoga-mandapa (hall of offerings)



- The aesthetic sculptures look at their apex in this architectural exhibition. Erected in red sandstone, Lingaraj Temple has the stone of the darkest shade.
- The huge temple complex covers the vast lands of Bhubaneswar in a stretch. The tall spire of the temple extends to the height of 55 meters and literally, dominates the skyline of Bhubaneswar.
- The spacious courtyard comprises 50 small shrines that are dedicated to several Gods of the Hindu pantheon.

Highlights of the redevelopment plan

- The plan has been made for the redevelopment of peripheral area of the 55-metre-tall temple, known as 'Ekamravan Kshetra', in Bhubaneswar.
- The redevelopment will take place over 66 acres of land surrounding the temple.
- At present, the space in front of the temple could barely accommodate 10,000 to 15,000 devotees during Shivratri congregation. However, upon revamping of adjoining areas of temple, 2 lakh devotees could easily congregate in the space.
- Lingaraj Temple depicts the rich legacy of Indian culture and traditions. The colossal temple attracts thousands of devotees and pilgrims to its doorstep every year. The spiritual ecstasy offered by the temple is worth feeling for once.

INDIA'S FORESTS AND COAL MINING

◎ CONTEXT:

Giving a boost to the mining sector, the government in its announcements intended to revive the economy following the pandemic. But a boost to mining brings with it associated troubles such as land conflicts, run-ins with communities and an impact on the environment.

◎ ABOUT:

What is 'GO and No-Go' zones?

- The concept of declaring certain forest areas within coal blocks as "inviolable" began in 2004.
- The environment ministry classified certain forests as either 'go' or 'no-go' areas and banned mining from taking place in the latter.
- In 2009, the environment ministry had placed the country's forested areas under two

categories - Go and No-Go - and imposed a ban on mining in the 'No-Go' zones on environmental grounds.

Initial classification and current status of 'no-go' and 'go' zones

	Total		No-Go Zones			Go-Zones		
Initial classification in 2010	Total land	Total Blocks	Total land	No. of Blocks	% of Land	Total land	No. of Blocks	% of Land
	6,52,572 hectare	605	3,20,684 hectare	222	49%	3,31,888 hectare	383	51%
Revised classification	6,02,850 hectare	582	1,40,311 hectare	105	23.27 %	4,62,539 hectare	477	76.72%

◎ BACKGROUND:

- On June 18, 2020, Prime Minister Narendra Modi had announced that 41 new coal blocks would be opened for auction to the private sector to power its energy and industrial sectors.
- The decision was part of the announcements made by the Centre under the **Aatmanirbhar Bharat Abhiyan**.

Status of coal mining:

- Since 1980, when the Forest Conservation Act was enacted, India has diverted 0.53 million hectares of forestland for mining, the bulk of it for coal.
- So far coal was mined keeping in mind the requirement of end use, like electricity and steel.
- In 2015, the Supreme Court said that **coal is a precious national asset** and it should be used for specific purposes. Since 2015, 49 coal mining projects have been cleared.
- The **coal industry in India is state-owned**, but this auction of 40 new coal blocks will see the creation of a privatised, commercial coal sector in India.
- In 2020, 21 of the 41 blocks put up for auction, 21 feature in the original No-Go list.
- Currently India was not utilising its existing capacity fully and only 67% of the mines auctioned since 2015 are were not operational yet.

Items for box

- India produces over 85 minerals including coal, lignite, bauxite, chromite, copper ore and concentrates, iron ore, lead and zinc concentrates, manganese ore, silver, diamond, limestone, phosphorite etc.
- India is the **second-largest producer** and **importer** of coal in the world.
- There are over 3,500 mining leases that are in force in the country across 23 states covering an area of 316,290.55 hectares.
- Of those, nearly 70% are in five states alone –
 - Madhya Pradesh has 702 mining leases
 - Tamil Nadu has 464
 - Andhra Pradesh has 453
 - Gujarat has 432
 - Karnataka has 376

Ease of coal mining

- The federal government has been easing rules for coal mining, which was made a state monopoly in 1973.

- In 1993, the government allowed private companies to mine coal for their own use.
- It has further eased government control over the industry since 2014.
- State-owned Coal India Limited, established in 1975, still accounts for 80% of domestic production, of which 80% is sold to thermal power plants.

Why is it a bad idea?

- The country's major mineral area is under its richest forests and in the watersheds of its key rivers which are also the homes of India's poorest people, mainly tribal communities and forest dwellers.
- Coal is the single largest source of air pollution and carbon dioxide (CO₂) in India. Of the total CO₂ emissions, 50% comes from coal burning.
- Coal is among the biggest contributors to climate change and the recently released government report on climate change noted that India has already witnessed 0.7° C of warming and surface air temperature is likely to rise by 4.4° C till the end of the century.
- This is expected to have led to-
 - the decimation of over 19,000 hectares of forestland
 - cutting down of over 1 million trees
 - displacement of over 10,000 families

DID DEATH VALLEY JUST HIT THE HIGHEST TEMPERATURE RECORDED EVER

◎ CONTEXT:

California's Death Valley registered a temperature of 54.4 degrees Celsius or 129.9 degrees Fahrenheit on August 16, 2020, which, once verified, could be the hottest temperature ever recorded on Earth.

◎ ABOUT:

- Death Valley is a desert valley in Eastern California, in the northern Mojave Desert, bordering the Great Basin Desert.
- The valley is bounded on the west by the Panamint Range and on the east by the Black, Funeral, and Grapevine mountains of the Amargosa Range.
- It is one of the hottest places on Earth, along with deserts in the Middle East and the Sahara.
- As the hottest, driest and lowest national park, Death Valley is a land of extremes.

Highlights

- The temperature was recorded at the United States National Weather Service's automated weather station at Furnace Creek, near the border with Nevada, at 3:41 pm local time on the afternoon of August 16.
- The all-time highest temperature ever recorded is 134°F or 56.7°C on July 10, 1913, at the Greenland Ranch in the Death Valley.
- However, since the temperature-recording mechanisms a century ago were not as advanced, many have doubted if that reading was reliable.
- Similarly, a reading of 131°F or 55°C from July 1931 in Tunisia, has also been challenged.
- The temperature recorded at Furnace Creek has been termed as 'preliminary' and not 'final'. Some have said that if it is verified as correct, it will be a new record.

Why Death Valley is so hot?

Death Valley's crazy heats are caused by a combination of the lack of water, geography, and materials that make up the valley.

- **Lack of water:** The average yearly rainfall in Death Valley is only 2 inches. This is less than many other deserts in the world, averaging around 10 inches of rain annually. This intense lack of water also creates a lack of plants in the area resulting in the expanses of sand in the valley open to constant heating by the sun.
- **Geography:** The lower levels of mountain ranges create an interesting phenomenon of trapping the hot air within the valley. Sand and rocks make up the valley floor which radiate a large amount of heat. However, because of the geography, this hot air cannot escape. Instead, the hot air rises along the valley walls, cools slightly and then falls back to the valley floor to be heated even more by the hot sand and low elevation air pressure.

This concept of movement by heating and cooling is called convection and exists in many other life circumstances like the boiling of water or in a kitchen oven.

What is 'Heat Dome'?

- The high temperature recorded on August 16 is said to be a result of a so-called 'heat dome' that is smothering the west coast of the United States.
- The National Oceanic and Atmospheric Administration or NOAA describes it thus:
- High pressure circulation traps hot ocean air like a lid or a cap trapping heat at the surface and favouring the formation of a heat wave.
- To summarize, a heat dome is a pocket of hot air that is trapped in the upper atmosphere and refuses to move.
- While it stagnates there, it heats everything around it, forcing hot air down to the ground, where the air lingers.
- The combination of hot air and humidity will drive the heat index much higher, making the event doubly dangerous.
- Additionally, one of the most dangerous features is that the temperature may not reduce very much at night. This makes an endangered person more endangered, and results in even more deaths.

PLASTIC POLLUTION IN ATLANTIC AT LEAST 10 TIMES WORSE THAN THOUGHT

◎ **CONTEXT:** There are 12-21 million tonnes of tiny plastic fragments floating in the Atlantic Ocean, scientists have found.

◎ **ABOUT:** What is marine microplastic?

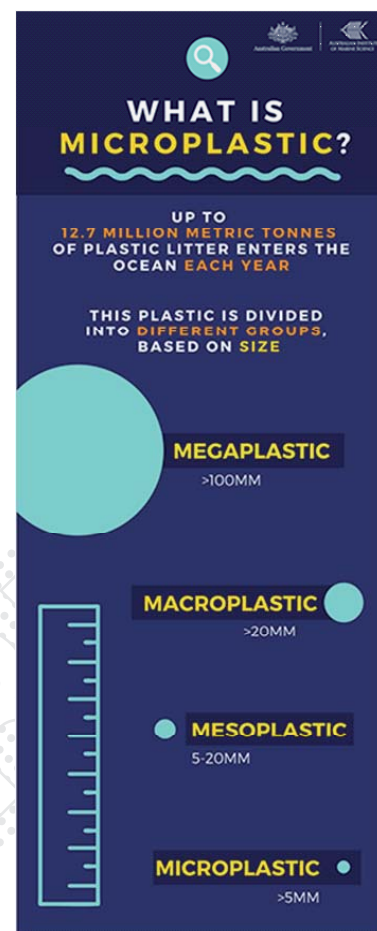
- Marine microplastics (10–1000µm) belong to the continuum of the discarded plastic debris that enters the ocean from land-based and marine sources.
- The pathways of plastic input are very diverse and include riverine and atmospheric transport from
 - coastal and inland areas
 - illegal dumping activities
 - erosion of legacy refuse dumps
 - direct at-sea littering from shipping, fishing and aquaculture activities
- The ubiquitous presence of microplastics in the marine environment raises concerns over damage they could cause to oceanic ecosystems and eventually to human health.

Key-highlights of the Study

- The new study finds that the total amount of plastic making its way into the Earth's oceans is likely higher than previous estimates suggest.
- A previous study published in 2015 estimated that upward of 12 million metric tons of plastic trash made it into the oceans in 2010 alone.
- The new study estimates that there is upward of 21 million metric tons of three common types of small plastic pollution in just the top 200 meters of the Atlantic-
 - Polyethylene
 - Polypropylene
 - Polystyrene

How does it impact the environment?

- **Difficult to decompose:** Plastic can take hundreds to thousands of years to decompose depending on the type of plastic and where it has been dumped.
- **Harmful for the ecosystem:** In the oceans, plastic pollution impacts marine life, ocean health, coastal tourism and even human health.
 - Marine animals unknowingly ingest plastic and often suffocate.
 - While all sorts of marine species are prone to get impacted by plastic pollution, typically, bigger marine species tend to get more attention because of the amounts of debris they can hold up.
- **Impacting the entire food chain:** Microplastics below the surface of the ocean are bad news for the whole food chain. Small ocean-dwelling creatures eat them, and the plastic makes its way into larger fish and shellfish that humans eat.



SWACHH SURVEKSHAN 2020

◎ CONTEXT:

The Union Housing and Urban Affairs announced results of 'Swachh Survekshan 2020', listing out the cleanest and dirtiest cities in India.

◎ ABOUT:

- The Swachh Survekshan is conducted to study the progress of Swachh Bharat Mission (Urban) and rank cities based on cleanliness and sanitation parameters.
- Swachh Survekshan was introduced by the government with the objective of generating large-scale citizen participation in the Mission, along with inculcating a spirit of healthy competition among cities towards becoming India's cleanest cities.
- It monitors the performance of the Swachh Bharat Abhiyan, launched in 2014.
- Four parameters were used for arriving at the overall ranking of a city-
 - certifications (1,500)
 - direct observation (1,500)
 - service level progress (1,500)
 - citizen feedback (1,500)

- Swachh Survekshan is the world's largest cleanliness survey. 4242 cities are covered for this survey. The feedback has been collected from 1.9 crore citizens. The survey covered 4,242 cities, 62 Cantonment Boards and 92 Ganga Towns in 2020.
- The extensive sanitation survey is commissioned by the Ministry of Urban Development and carried out annually by Quality Council of India.

Key-highlights of the findings

- **Cleanest cities:** For the fourth time in a row, Madhya Pradesh's Indore was adjudged India's cleanest city followed by Gujarat's Surat and Maharashtra's Navi Mumbai.
- **Dirtiest city:** Bihar's capital Patna was ranked as the dirtiest city.
- **Jalandhar** got the top rank among **cantonments** and **New Delhi** was the **cleanest capital city**.
- **Jharkhand** ranked on top in the list of best performing states, with less than 100 ULBs, in terms of overall performance.
- **Chhattisgarh** bagged the award for the best-performing state with over 100 ULBs.
- **Varanasi** was adjudged the '**best Ganga town**' in the central government's cleanliness survey.

A ROW BETWEEN TURKEY AND GREECE RAISING TENSION IN THE EASTERN MEDITERRANEAN

◎ **CONTEXT:** NATO allies Turkey and Greece have locked horns over who gets to explore hydrocarbons in the Eastern Mediterranean. This latest spat over gas reserves and maritime rights has prompted fears that tensions could escalate further.

◎ **ABOUT:** Eastern Mediterranean waters

- Eastern Mediterranean denotes the region in the east of the Mediterranean Sea (the Levantine Sea) in Western Asia.
- The countries and territories of this region include Greece, Turkey, Cyprus, Syria, Lebanon, Jordan, Israel, Palestine, Egypt and Libya.



- The East Mediterranean includes:
 - the **Adriatic Sea**, northwest of the main body of the eastern Mediterranean Sea, separates the Italian peninsula from the Balkan peninsula and extends from the



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Strait of Otranto to the south (where it connects to the Ionian Sea) to the **Gulf of Venice** to the north

- the **Ionian Sea** lies to the south of Italy and Greece
- the **Aegean Sea**, located between the Greek and the Anatolian peninsulas, with the island of Crete defining its southern border
- the **Levantine Sea**, separated from the Ionian Sea by a submarine ridge between the western end of Crete and Cyrenaica (Libya); it extends to the south of the Anatolia peninsula.
 - It is bordered by Turkey in the north, Syria, Lebanon, Israel and the Gaza Strip in the east, Egypt and Libya in the south, and the Aegean Sea in the northwest.
 - The western border to the open Mediterranean (the also called **Libyan Sea**) is defined as a line from the **cape Ra's al-Hilal** in Libya to the island of **Gavdos**, south of Crete.

The Mediterranean neighbours

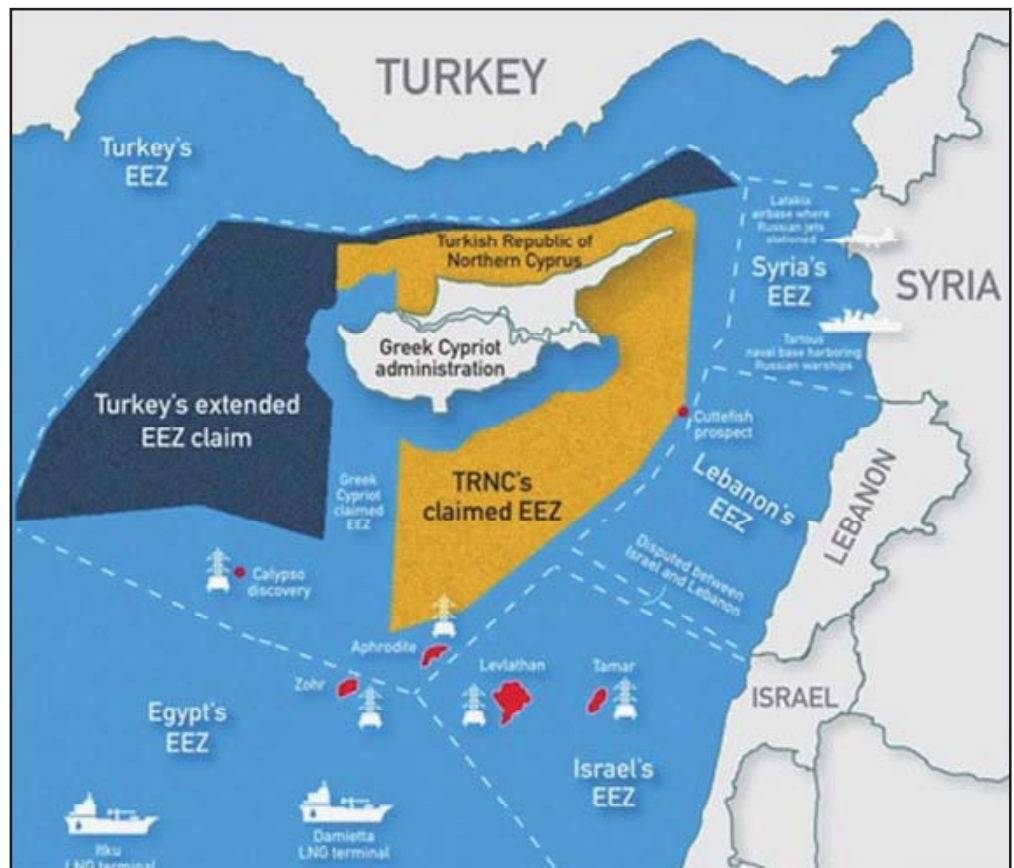
- For centuries, Turkey and Greece have shared a chequered history.
- Greece won independence from modern Turkey's precursor, the Ottoman Empire, in 1830.
- In 1923, the two countries exchanged their Muslim and Christian populations – a migration whose scale has only been surpassed in history by the Partition of India.
- The two nations continue to oppose each other on the **decades-old Cyprus conflict**, and on two occasions have almost gone to war over exploration rights in the **Aegean Sea**.
- Both countries are, however, part of the 30-member NATO alliance, and Turkey is officially a candidate for full membership of the European Union, of which Greece is a constituent.

How did the Eastern Mediterranean become the eye of a geopolitical storm?

- For decades, Eastern Mediterranean maritime boundary disputes were a local affair, confined to sovereignty claims and counterclaims among Cyprus, Greece, and Turkey.
- But over the past five years, the region's offshore natural gas resources have turned the Eastern Mediterranean into a key strategic arena through which larger geopolitical fault-lines involving the EU and the MENA region converge.
- Italy and France have played integral roles in driving that change, which has placed the EU and Turkey's already complicated relationship onto more adversarial terms.
- The game changer was the August 2015 discovery of the massive Zohr natural gas field in Egyptian maritime territory.

What about international laws?

- The territorial claims of Greece and Cyprus are backed by international law under the 1982 United Nations Convention on the Law of the Sea.
- But Turkey is not a signatory to the convention so even if Turkey's latest actions were found illegal by an international maritime tribunal, Turkey likely would ignore rulings against it.
- Cyprus and Greece have not brought a case against Turkey before the tribunal overseeing the Law of the Sea.



NATIONAL RECRUITMENT AGENCY

- ◎ **CONTEXT:** The Union Cabinet approved the plan to set up a National Recruitment Agency (NRA).
- ◎ **ABOUT:**
- The proposed National Recruitment Agency will be an independent body to conduct examination for government jobs.
 - It will conduct a common preliminary examination for various recruitments in the central government.
 - It will conduct the Tier-1 examination for these three agencies online. Examination centres will be set up in each district, with the Centre committing to invest in the necessary infrastructure for 117 aspirational districts.
 - This agency is set up under the **Societies Registration Act**.
 - NRA will have representatives from the ministry of railways, ministry of finance/ department of financial services, the Staff Selection Commission (SSC), Railway Recruitment Board (RRB) and the Institute of Banking Personnel Selection (IBPS).

What will be the process?

- Initially, it will organise a CET to screen/shortlist candidates for the Group B and C (non -technical) posts, which are now being conducted by the Staff Selection Commission (SSC), Railways Recruitment Board (SSC) and Institute of Banking Personnel Selection (IBPS).
- Later on, more exams may be brought under it.
- The agency will have representatives from SSC, IBPS and RRB.

- The test will be conducted for three levels:
 - Graduate candidates
 - higher secondary (12th pass) candidates
 - the matriculate (10th pass) candidates
- However, the present recruitment agencies– IBPS, RRB and SCC — will remain in place.
- Based on the screening done at the CET score level, final selection for recruitment shall be made through separate specialised Tiers (II, III, etc.) of examination which shall be conducted by the respective recruitment agencies.
- The curriculum for CET would be common.

Validity of CET Score

- The CET score of a candidate shall be valid for a period of three years from the date of declaration of the result.
- The best of the valid scores shall be deemed to be the current score of the candidate. While there will be no restriction on the number of attempts to be taken by a candidate to appear in the CET, it will be subject to the upper age limit.
- However, the relaxation in the upper age limit shall be given to candidates of SC/ST/OBC and other categories as per the extant policy of the Government.

The need

- As of now, aspirants have to take different exams that are conducted by various agencies for central government jobs.
- On an average 2.5 crore to 3 crore aspirants appear for about 1.25 lakh vacancies in the central government every year.
- As and when it will be set up, the NRA will conduct a common eligibility test (CET) and based on the CET score a candidate can apply for a vacancy with the respective agency.

Assessing the benefits

- Easing the process: NRA will benefit around 25 million aspirants who apply for multiple government jobs every year and have to apply for each exam separately.
- Streamlining the recruitment process: A single eligibility test would “significantly reduce” the recruitment cycle.

BIOETHANOL BLENDING OF PETROL

◎ **CONTEXT:** The government has set targets of 10 per cent bioethanol blending of petrol by 2022 and to raise it to 20 per cent by 2030 under the ethanol blending programme to curb carbon emissions and reduce India’s dependence on imported crude oil.

◎ **ABOUT:** What are 1G and 2G biofuel plants?

- Biofuels are liquid or gaseous fuels that are produced from biodegradable fractions of products, remains from agricultural production and forestry, as well as biodegradable fractions of industrial and municipal wastes.
- However, ethanol produced from renewable energy sources is one of the most promising biofuels for the future.
- 1G bioethanol plants: 1G bioethanol plants utilise sugarcane juice and molasses, byproducts in the production of sugar, as raw material

- 2G bioethanol plants: Whereas 2G plants utilise surplus biomass and agricultural waste to produce bioethanol.
- 1G and 2G bioethanol plants are set to play a key role in making bio-ethanol available for blending but face challenges in attracting investments from the private sector.

Challenges

- **Insufficient domestic production:** Currently, domestic production of bioethanol is not sufficient to meet the demand for bio-ethanol for blending with petrol at Indian Oil Marketing Companies (OMCs).
 - Sugar mills, which are the key domestic suppliers of bio-ethanol to OMCs, were only able to supply 1.9 billion litres of bio-ethanol to OMCs equating to 57.6 per cent of the total demand of 3.3 billion litres.
- **Costly agricultural waste:** The price of obtaining agricultural waste required for the production of bio-ethanol at 2G plants was currently too high for it to be viable for private investors in the country.
- **Doubtful financial stability:** Many sugar mills which are best placed to produce bioethanol do not have the financial stability to invest in biofuel plants and there are also concerns among investors on the uncertainty of the price of bio-ethanol in the future.

What needs to be done?

- **Pricing of agricultural waste:** The state governments needed to set up depots where farmers could drop their agricultural waste and that the central government should fix a price for agricultural waste to make investments in 2G bioethanol production an attractive proposition.
 - The three state-run OMCs Indian Oil Corporation Ltd., Bharat Petroleum Corporation Ltd. and Hindustan Petroleum Corporation Ltd. are currently in the process of setting up 2G bio-ethanol plants.
- **Greater visibility on price:** The government should provide greater visibility on the price of bioethanol that sugar mills can expect by announcing a mechanism by which the price of bio-ethanol would be decided.

More focus on production: The impetus for bioethanol uptake was driven by government worldwide, and a target that a certain percentage of ethanol blending be done using ethanol generated from 2G plants would help boost investment in the area.

INDIA RANKS AMONG LOWEST IN TERMS OF INTERNET QUALITY

- ◎ **CONTEXT:** India ranks among the lowest in the world in terms of Internet quality, according to a global research released by online privacy solutions provider SurfShark.
- ◎ **ABOUT:**
 - The **Digital Quality of Life Index 2020** is prepared by Surfshark, a virtual private network (VPN) provider based in the British Virgin Islands.
 - The study sampled the quality of a digital wellbeing in 85 countries across the globe over five key pillars:
 - Internet affordability
 - Internet quality
 - electronic infrastructure

- electronic government
- electronic security
- All parameters have equal weightage.

Key-highlights of the Index

- As per the "Digital Quality of Life Index 2020", which researches on the quality of a digital wellbeing in 85 countries (81% of the global population), in terms of e-infrastructure, India occupies 79th place, ranking below countries including Guatemala and Sri Lanka.
- India makes it into the top 10 in terms of Internet affordability. With a ranking of nine, it outperforms countries such as the U.K., the U.S. and China.
- Additionally, when it comes to e-government, India occupies the 15th place globally, just below countries like New Zealand and Italy.
- However, India's Internet quality is one of the lowest across 85 countries analysed in the research.
- In position 78, India is at the bottom of the pillar with unstable and slow mobile Internet dragging it down in the overall Internet quality index.
- This year's Digital Quality of Life Index found that seven of the 10 countries with the highest digital quality of life are in Europe, with Denmark leading among 85 countries.
- Canada stands out as a country with the highest digital quality of life in the Americas, while Japan takes the leading position in Asia.
- Among the countries in Africa, people in South Africa enjoy the highest quality of digital lives whereas New Zealand leads in Oceania, outperforming Australia in various digital areas.

THE FIRST WORLD SOLAR TECHNOLOGY SUMMIT

◎ CONTEXT:

The First World Solar Technology Summit will be organized by International Solar Alliance, ISA on a virtual platform on 8th of September. Prime Minister Narendra Modi will deliver the inaugural address of the First World Solar Technology Summit.

◎ ABOUT:

- The World Solar Technology Summit is an attempt to bring together scientists, engineers and member states to sit down together and think about what the challenges are in realising the dream of making energy affordable and abundant
- The objective of the event is to bring the spotlight on state-of-the-art technologies as well as next-generation technologies which will provide impetus to the efforts towards harnessing solar energy more efficiently.
- It will help provide a multilateral connect when global trade is increasingly being viewed through the bilateral prism.
- Discussion topics include-
 - PV technology development and its future
 - recent advances – including conversion efficiency improvements and declining costs – in PV modules and storage
 - disruptive solar technologies for grid application – ground-mounted, floating or on residential and commercial rooftops
 - solar beyond the power sector

ISA Journal on Solar Energy

- ISA would also be launching the ISA Journal on Solar Energy that would help authors from across the globe to publish their articles on solar energy, during the event.

International Solar Alliance

- Officially announced during the UN Climate Change Conference in Paris in 2015, the ISA is a partnership of solar resource-rich countries.
- Countries located between the Tropic of Cancer and Tropic of Capricorn, the two regions that receive the most amount of sunlight, are mostly the members of ISA.
- Currently, 121 countries have agreed to be members of ISA. Most of these are countries with a large participation from Africa, South-east Asia, and Europe.
- Pakistan and China are not a members of the ISA.
- It is headquartered in Gurugram.

The ISA aims to reduce the cost of solar technology and finance to facilitate the deployment of more than 1 TW of solar generation capacity and mobilize more than \$1 trillion (Rs74.6 lakh crore) of solar power investment by 2030 in its member countries.

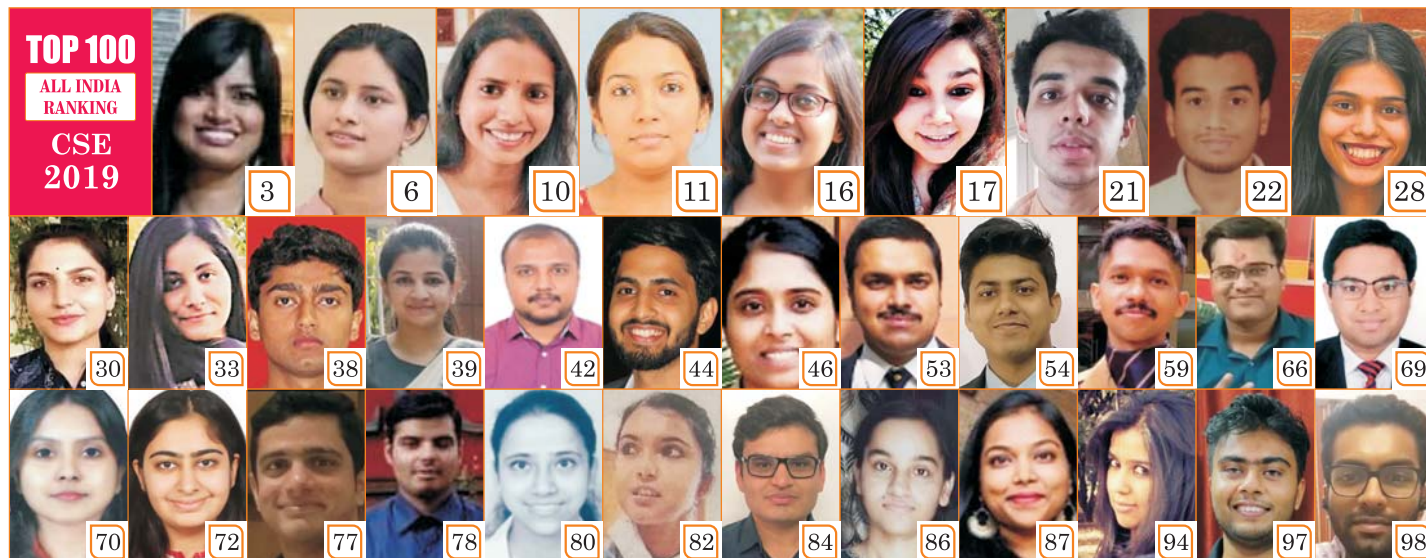
It's only been a year and a half since ISA started working in a full-fledged way. Projects worth 1.4 billion has already been tied up and is at different stages of construction.

Progress so far:

- Clean energy projects now account for more than a fifth of India's installed power generation capacity.
- India has 34.6 gigawatts (GW) of solar power, and aims to have 100GW by 2022.

One Sun One World One Grid (OSOWOG)

- In contrast to 'Atmanirbhar Bharat', the Indian Government is deliberating with the idea of One Sun One World One Grid (OSOWOG) which has quite an ambitious objective and focuses on flow of green energy across nations through one grid.
- If the Government is to develop this concept seriously, then it will require reforms in the regulatory framework governing the electricity sector.
- On the international landscape, the concept of OSOWOG intends to tap the global solar energy potential for the benefit of all nations and requires an international electricity grid to allow inter-country free flow of power.
- To achieve this, the OSOWOG will require certain changes in the regulatory framework especially in two areas –
 - grid security for the Indian grid
 - development of appropriate international energy exchange
- The grid has to be a "smart grid" in order to obtain highest efficiencies given the constraints of transmission of solar power, i.e. transmission losses.



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