the IAS hub
Be Your Dream.

JANUARY

6

CRUX 10

10 News. 10 Sources. One Place



MK Yadav Sir

THE HINDU

ET BS TOI

The Indian EXPRESS livemint pib

DownToEarth
FORTNIGHTLY ON POLITICS OF DEVELOPMENT, ENVIRONMENT AND HEALTH

Science Reporter

विज्ञान एवं प्रौद्योगिकी मंत्रालय
MINISTRY OF SCIENCE AND TECHNOLOGY
सत्यमेव जयते

Table of Contents

1. Decennial Census Exercise
2. Equity Linked Savings Scheme
3. Aspirational Blocks Programme
4. Indian Standard Time
5. Commercial Papers
6. Char Dham Highway Project
7. Eat Right Station
8. NaBF4 Electrolyte
9. Vaccine for Honeybees
10. Global Plastics Treaty

THE HINDU Page 1

Decennial census put off till Sept. to freeze boundaries

Vijaita Singh
NEW DELHI

The decennial census exercise has been postponed till September, at least, as the government informed the States that the date of freezing of administrative boundaries has been extended till June 30.

As per norms, census can be conducted only three months after freezing of boundary limits of administrative units such as districts, sub-districts, tehsils, talukas and police stations. The finalisation of boundaries of administrative units entails covering all jurisdictional changes between two consecutive censuses. The last census was held in 2011.

The general elections are expected to be held in March-April 2024 and the completion of both the phases of census will take at least 11 months, even if done at accelerated pace from October, thereby ruling out the possibility of census happening anytime in 2023 and early 2024. Census before the 2024 general elections is possible if the rules are tweaked and a shorter process is introduced.

No reason cited

Unlike in the past, when COVID-19 and vaccination drive were cited as reasons for not conducting census, the January 2 letter by the office of the Registrar General of India (RGI) does not specify any reason. It also does not refer to the exercise as "Census 2021", the year in which the population enumeration was supposed to be concluded, it instead says, "ensuing Census".

The letter was sent by Additional RGI Sanjay to Chief Secretaries of States.

CONTINUED ON » PAGE 12

DECENNIAL CENSUS EXERCISE
(Syllabus: GS Paper 1 - Geography)

Context: The **decennial census exercise** has been postponed till September, at least, as the government informed States that the date of freezing of administrative boundaries has been extended till June 30.

- The first phase of Census 2021 - the **House listing and Housing Census along with updating the National Population Register (NPR)** were scheduled to be held from April-September 2020 but were postponed indefinitely due to the COVID-19 pandemic.
- The second phase and the main phase of the decennial census exercise - the **population enumeration** - were to be concluded by March 5, 2021.

Decennial Census Exercise

- **About**: The Census is the **enumeration of the population of the country** and it is being conducted at an interval of 10 years.
  - As per norms, **census can be conducted only three months** after freezing of boundary limits of administrative units such as districts, sub-districts, tehsils, talukas and police stations.
  - The finalisation of boundaries of administrative units entails covering all jurisdictional changes between two consecutive censuses.
  - The last census was held in **2011**.
- **Origin**: It was first started under **British Viceroy Lord Mayo in 1872.**
  - The **first synchronous census** in India was held in **1881**.
- **Historical Background**: The earliest literature **'Rig-Veda'** reveals that some kind of population count was maintained during 800-600 BC in India.
  - The celebrated **'Arthashastra' by 'Kautilya'** written in the 3rd Century BC prescribed the collection of population statistics as a measure of state policy for taxation.
  - During the regime of the Mughal king Akbar, the administrative report **'Ain-e-Akbari'** included comprehensive data pertaining to population, industry, wealth and many other characteristics.
- **Nodal Authority:** The responsibility of conducting the decennial Census rests with the **Office of the Registrar General and Census Commissioner, India under the Ministry of Home Affairs,** Government of India.
- **Structure of data**: In the Census, data is collected on demographic and various socio-economic parameters like education, SC/ST, religion, language, marriage, fertility, disability, occupation and migration of the individuals.
- **Difference between the National Population Register (NPR) and the Census:** While **NPR only contains demographic information**, more details are required for the census like information on demography, economic activity, literacy and education, and housing and household amenities among others.

BUSINESS STANDARD

Page 11

EQUITY LINKED SAVINGS SCHEME

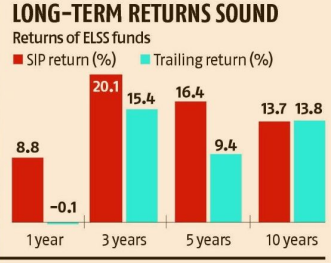
(Syllabus: GS Paper 3 - Economy)

Do not let weak returns of ELSS in 2022 cloud your judgement

SARBAJEET K SEN

The ₹1,58,199.6-crore equity linked savings scheme (ELSS) category, popularly called tax-saver funds, disappointed investors in 2022 by giving a meagre return of 1.9 per cent. As we enter the last quarter of the year, and salaried employees scramble to submit evidence of their tax-saving investments, a large number will ask whether investing in ELSS is a good idea after their recent abysmal performance.





Strong long-term track record

The ELSS category is purely equity oriented. And equities have the potential to offer higher returns than debt products over the long term. ELSS funds have given a category average return of 13.7 per cent over the past 10 years. Debt-oriented tax-saving products can't give such high returns. "As they are professionally managed funds, they have the ability to create wealth, or at least generate inflation-beating returns over the long term," says Umesh Kumar Mehta, chief investment officer (CIO), Samco Mutual Fund (MF).

Investors have to pay capital gains tax when they redeem these funds: 10 per cent on long-term capital gains above ₹1 lakh, and 15 per cent in case of short-term capital gains. Even then their post-tax returns are likely to surpass that of debt-oriented tax-saving products over the long term.

Another advantage is their short lock-in. "ELSS has the shortest lock-in period among all Section 80C instruments," says Mehta. The lock-in of three years works in favour of investors who tend to exit equity funds at the first sign of a downturn.

Investors can enjoy tax deduction of up to ₹1.5 lakh under Section 80C by investing in ELSS.

Be prepared for volatility

Investors must, however, be prepared for periods of volatility. In the past 10 calendar years, there have been four — 2015, 2016, 2019 and 2022—when their category average return was in the single digit. It was negative in 2018. "Since these funds invest in equities, returns are not assured," says certified financial planner Parul Maheshwari.

YOUR MONEY

Stay invested

Investors should stay invested in ELSS even after the three-year lock-in ends. "The holding period should be long enough for the investments made by the fund manager to complete one bull-bear-bull cycle. Generally, well-diversified equity funds have managed to give inflation-beating performance over a five-seven-year period," says Mehta.

Parijat Garg, fund manager and executive vice president, IIFL Asset Management, also echoes this view. "If the fund you've invested in is doing well, there is no reason to redeem just because the lock-in period has expired," he says.

Select a fund that has invested in quality businesses. "In the long run, a fund's performance can't be better than that of the underlying businesses it has invested in," says Mehta. He adds that the portfolio should be diversified and the fund should have a consistent long-term track record vis-a-vis its benchmark and peers.

Don't diversify across too many ELSS. Keep investing in the same carefully-chosen scheme via the systematic investment plan (SIP) route.

Go for new ideas?

While IIFL MF has launched a passive ELSS that tracks the Nifty 50, Samco MF has launched one that will be mid-cap and small-cap oriented (most ELSS are flexi-cap oriented).

Financial planners say a passive ELSS is a good idea for some investors. "If you are a conservative investor who wants to avoid fund manager risk, go for the passive fund. Aggressive investors should stick to actively-managed ELSS," says Maheshwari.

While making an ELSS mid-cap and small-cap oriented would increase its volatility, Samco MF believes the concept can work due to the three-year lock-in. Viral Bhatt, founder, Money Mantra, believes a flexi-cap oriented ELSS fund would offer better risk-adjusted returns. "The large-cap component offers better downside protection. A mid-cap and small-cap oriented fund will be hit more during a downturn."

Let Samco MF's fund develop a track record before you invest in it. Opt for it only if you have adequate exposure to large-cap funds and need more mid-cap and small-cap exposure to your portfolio.

Context: The ₹ 1,58,199.6crore **equity linked savings scheme (ELSS)** category, popularly called tax saver funds, disappointed investors in 2022 by giving a meagre return of 1.9 per cent.

Equity Linked Savings Scheme (ELSS)

- **About:** A type of **diversified equity scheme** which comes offered by mutual funds in India.
- **Systematic investment:** It can be invested using both **SIP (Systematic Investment Plan) and lump sums investment options.**
- **Lock-in period**: ELSS schemes have a **mandatory lock-in period of three years.**
  - So, any investment made in ELSS funds will be locked for three years and investors can redeem their units only after the lock-in gets over.
- **Investment Limit:** There is **no upper limit** to ELSS investments.
  - But in a financial year, **investments only up to Rs 1.5 lakh will be eligible** for tax rebates under Sec 80C of the Income Tax Act.
- **Minimum Investment**: In the case of ELSS funds, the minimum investment amount for most fund houses is **₹500.**
- **Returns**: The returns generated by ELSS funds **depend on the performance of their portfolio constituents.**
  - ELSS funds are **prone to the inherent volatility** of the equity market, but have the potential to generate superior returns in the long term.
  - The volatility risk **can be mitigated by investing in ELSS through the SIP mode.**
- **Tax benefits:** They offer tax benefits under the **Section 80C of Income Tax Act 1961.**
  - Among all mutual funds, it is the **only mutual fund covered under Section 80C deductions.**
  - ELSS is a diversified equity mutual fund that **offers tax deductions of up to Rs.1.5 lakhs** annually.
  - Previously, ELSS returns were tax-free. However, post Budget 2018, the **long-term capital gains tax over Rs.1 lakh are taxable at 10%.**
  - The investor would not get the benefit of indexation.
- **Nodal Authority**: The fees charged by mutual funds are regulated and are subject to certain limits specified by the **Securities and Exchange Board of India (SEBI).**

INDIAN EXPRESS

Page 6

ASPIRATIONAL BLOCKS PROGRAMME

(Syllabus: GS Paper 2 - Government Policies & Interventions)

ASPIRATIONAL BLOCK PROGRAMME

Building blocks: Govt set to launch scheme tomorrow on lines of aspirational dists

HARIKISHAN SHARMA
NEW DELHI, JANUARY 5

THE CENTRE is set to launch the Aspirational Blocks Programme (ABP), a new initiative on the lines of the Aspirational District Programme, it is learnt.

The Aspirational District Programme is aimed at improving performance of districts lagging on various development parameters,

It is learnt that the ABP, announced by Finance Minister Nirmal Sitharaman in her 2022-23 Budget speech, is likely to be launched by Prime Minister Narendra Modi during the concluding session of the second National Conference of Chief Secretaries on Saturday.

The three-day conference began on Thursday, with NITI Aayog vice-chairman Suman Bery chairing a special session on 'Vikasit Bharat — Reaching the Last Mile'.

EXPLAINED

What is districts programme

THE GOVERNMENT had launched the Aspirational District Programme in 112 districts across several states in 2018. These districts were selected based on their score on indicators comprising four main sectors: deprivation, health & nutrition, education, and infrastructure. The progress of these districts is monitored and their ranking is released.

"The states and NITI Aayog will work together," a source said.

According to this source, like the aspirational district programme, the private sector can also contribute to the development of these blocks.

Context: The **Aspirational Blocks Programme (ABP),** announced by Finance Minister in her 2022-23 Budget speech, is likely to be launched by Prime Minister during the concluding session of the second National Conference of Chief Secretaries.

Key Points

- The Objective is to **improve the quality of life of citizens** in the most backward blocks of the country in Aspirational Districts Programme.
- Under the ABP, **500 blocks across states have been identified.**
- **NITI Aayog, in partnership with the states**, will release quarterly ranking of these blocks based on their performance on development indicators covering sectors such as health, education and nutrition, among others.
- While the Centre has put in **place basic indicators for the rankings,** states have been asked to include additional indicators based on their requirements.
- The **private sector can also contribute** to the development of these blocks.

Aspirational Districts Programme

- **About**: An **initiative by the Government of India implemented by NITI Aayog** with the help of various stakeholders to improve the living standards of people in aspirational districts.
- **Origin**: It was launched in January **2018** by prime minister.
  - The programme is anchored by **NITI Aayog in partnership with state governments and district level administrations.**
- **Coverage**: There are **112 Aspirational districts identified** throughout the nation covering minimum of one from each state in India.
- **Champions of change portal:** In April 2018 the **Champions of change portal was set-up by NITI Aayog** in partnership with Government of Andhra Pradesh to monitor the progress of the programme in the identified aspirational districts.
  - This portal provides the **data and comprehensive analysis of key areas of focus of the programme.**
  - The ranking is o**pen to public to monitor the performance.**
- **Core Strategy of the Programme**
  - **Convergence** of Central & State Schemes.
  - **Collaboration** of Central, State level 'Prabhari' Officers & District Collectors.
  - **Competition** among districts through monthly delta ranking.
    - The **delta ranking** is the overall ranking of the district.
- **5 broad socio-economic themes:**
  - Health & Nutrition (30%)
  - Education (30%)
  - Agriculture & Water Resources (20%)
  - Financial Inclusion & Skill Development (10%)
  - Infrastructure (10%)

LIVEMINT Page 9

INDIAN STANDARD TIME
(Syllabus: GS Paper 1 - Geography)

Adoption of IST to be mandatory now

The government is planning to come out with a comprehensive policy for mandatory adoption of Indian Standard Time (IST) nationwide, a senior consumer affairs ministry official said.

The purpose is to ensure synchronization of all networks and computers to IST and adoption of IST by telecom service providers, internet service providers, power grids, banks, stock exchange, etc, the official said.

Presently, IST is not being adopted mandatorily by all telecom and internet service providers. They are utilizing the servers synchronised to other sources such as Global Navigation Satellite System (GNSS).

The department of consumer affairs is already working on a project in coordination with the National Physical Laboratory and ISRO to generate and disseminate accurate time traceable to IST.

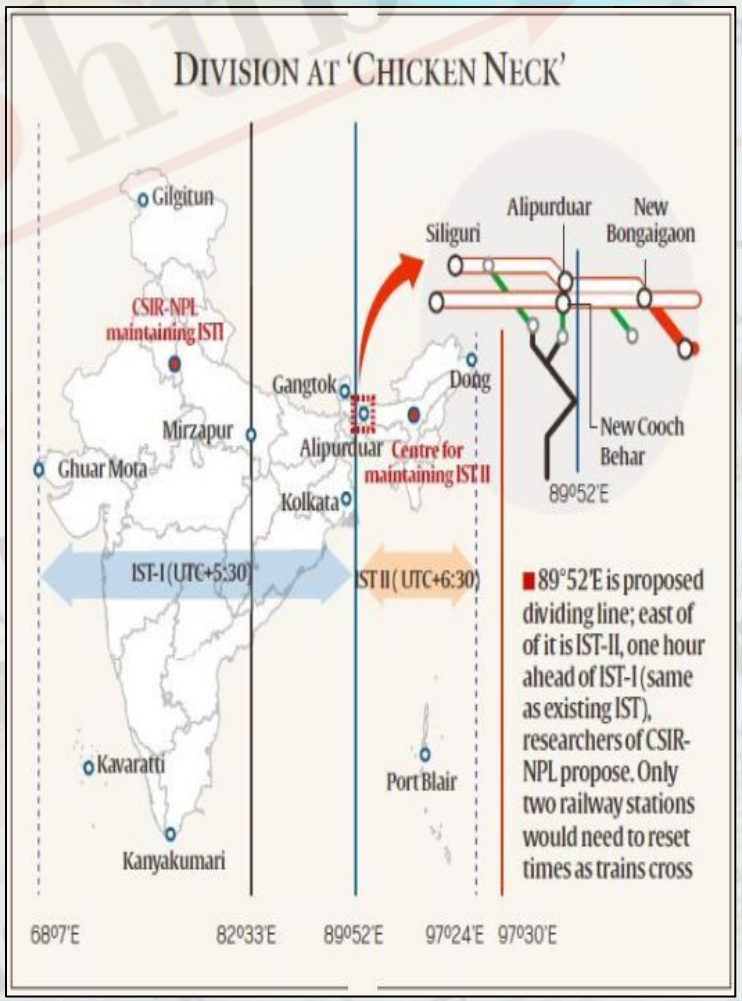
PTI

Context: The government is planning to come out with a **comprehensive policy for mandatory adoption of nationwide.**

- The purpose is to **ensure synchronization of all networks and computers** to IST and adoption of IST by Telecom Service Providers, Internet Service Providers, power grids, banks, stock exchange, etc.
- Presently, **IST is not being adopted mandatorily b**y all telecom and internet service providers.
- They are utilising the servers synchronised to other sources such a**s Global Navigation Satellite System (GNSS).**

Indian Standard Time (IST)

- **About**: Based on a **longitude of 82.5°,** which passes through Mirzapur, near Allahabad in Uttar Pradesh.
  - It is **5 hours 30 minutes ahead of Greenwich Mean Time (GMT)**, now called the Universal Coordinated Time (UTC).
  - The longitude **difference between Mirzapur and the United Kingdom's Royal Observatory** at Greenwich translates to an exact time difference of 5 hours 30 minutes.
  - A **clock tower at the Allahabad Observatory (15° N 82.5° E)** calculates local time.
  - In military and aviation time, E*("Echo-Star") designates IST.
- **Nodal Authority**: The **CSIR-NIPL (New Delhi)** is the keeper of the time in India, it records time using five caesium atomic clocks.
- **Background**: Time zones in India were **first set up in 1884,** during the British Raj. Before independence, India followed three major time zones - Bombay, Calcutta and Madras Time.
  - Indian Standard Time is an anachronism like many systems that were inherited from the British.
  - It was in 1906 that India had a single IST running through the center of the country.
- **Key Developments**: In 2006, the erstwhile **Planning Commission recommended** the division of the country into two time zones. **CSIR- NPL has supported the long-standing demand** and has suggested two ISTs separated by difference of one hour:
  - IST-I for most of India (covering the regions falling between longitudes 68°7'E and 89° 52'E).
  - IST-II for the Northeastern region (covering the regions between 89°52'E and 97° 25'E).
    - In 2018, the **Council of Scientific & Industrial Research's National Physical Laboratory (CSIR-NPL),** which maintains the Indian Standard Time (IST), published a research article describing the necessity of two time zones.



ECONOMIC TIMES

Page 8

COMMERCIAL PAPERS

(Syllabus: GS Paper 3 - Economy)

RISE IN OPEN MARKET RATES MAKE BANK LOANS PREFERABLE

Corporate Borrowing Moving Toward Banks from CPs, NCDs

Our Bureau

Mumbai: Corporate borrowing is increasingly moving toward banks from commercial papers (CPs) and non-convertible debentures (NCDs) amid a surge in open market rates, burnishing the allure of bank loans.

While bank credit growth is in excess of 17%, overall funding that included bonds and CPs climbed 13%.

With non-food credit climbing more than gross systemic credit, it is becoming apparent that borrowers are moving away from CPs and bonds to bank financing.

"With forecasts of policy rate hikes already at a steep 250 basis points, we worry that this might impede aggregate growth and reduce discretionary consumption," said Punit Bahlani, equity research associate, Nomura. "A sharp decline in commodity prices would also result in less working capital needs. Given the overall macro headwinds, private sector capex is unlikely to show up in a hurry."

One basis point is 0.01%.

The benchmark 10-year yield is hovering around 7.3%. Interest rates at the upper end for CPs raised to meet working capital needs, where tenors range from a week to a year, have climbed to as high as 13%. But even in the rising interest rate scenario, a commercial bank's marginal cost-based lending rate (MCLR) for comparable tenor is less than 9%.

Bank lending spreads have bounced back, as the 190-basis point repo rate increase flows through. Lending rates on new loans continue to increase, up 18 basis points in November 2022. Lending rates on new loans are now up 123 basis points since March 2022.

Context: Corporate borrowing is increasingly moving toward banks from **commercial papers (CPs) and non-convertible debentures (NCDs)** amid a surge in open market rates, burnishing the allure of bank loans.

Commercial papers (CPs)

- **About**: A **short-term debt instrument** issued by companies/financial entities to get funds up to a maturity period of one year.
  - They are u**nsecured money market instruments** issued in the form of a promissory note and held in a dematerialized form.
- **Minimum denomination**: A CP is issued in a **minimum denomination of Rs. 5 lakh** and multiples thereof.
- **Maturity Period**: CPs have a minimum maturity of **seven days and a maximum of up to one year** from the date of issue.
- **Issuance authority**: As per the RBI regulations, **CPs can be issued by a number of institutions** especially companies. Following are the type of entities who can issue Commercial Paper as per the RBI regulations.
  - Companies, including Non-Banking Finance Companies (NBFCs) and All India Financial Institutions (AIFIs);
  - Any other body corporate with a minimum net worth of ₹100 crore or higher, provided that the body corporate is statutorily permitted to incur debt or issue debt instruments in India; and
  - Any other entity specifically permitted by the Reserve Bank.
- **Eligible investors**: **All residents and non-residents permitted to invest** in CPs under Foreign Exchange Management Act, 1999 are eligible to invest in CPs.

Non-convertible debentures (NCDs)

- **About**: The debentures which can't be converted into shares or equities are called non-convertible debentures (or NCDs).
  - Debentures are long-term financial instruments which acknowledge a debt obligation towards the issuer.
  - Some debentures have a feature of convertibility into shares after a certain point of time at the discretion of the owner.
- **Significance**: Non-convertible debentures are used as tools to raise long-term funds by companies through a public issue.
  - To compensate for this drawback of non-convertibility, lenders are usually given a higher rate of return compared to convertible debentures.
- **Benefits**: NCDs offer various other benefits to the owner such as high liquidity through stock market listing, tax exemptions at source and safety since they can be issued by companies which have a good credit rating as specified in the norms laid down by RBI for the issue of NCDs.
- **Maturity period**: In India, usually these have to be issued of a minimum maturity of 90 days.

TIMES OF INDIA

Page 1

CHAR DHAM HIGHWAY PROJECT

(Syllabus: GS Paper 3 - Economy & Infrastructure)

Char Dham road work, key projects halted in Joshimath

Shivani Azad & Gaurav Talwar

Dehradun: Widening of the all-weather Char Dham road between Helang and Marwari was stopped "until further orders" by the Chamoli district administration on Thursday after thousands of Joshimath residents, anxious about the "sinking" town, blocked the Badrinath national highway-58 for hours, following a night of vigil and a day of protests.

Construction work under National Thermal Power Corporation's 520 MW Tapovan-Vishnugad hydel project has been suspended and the Joshimath-Auli ropeway halted "until further orders".

All construction work within the municipal area of Joshimath has also been ordered to be stopped for now.

▶4,000 pre-fab houses to be set up for families, P 12

▶'Base being shaken', P 12

ANI

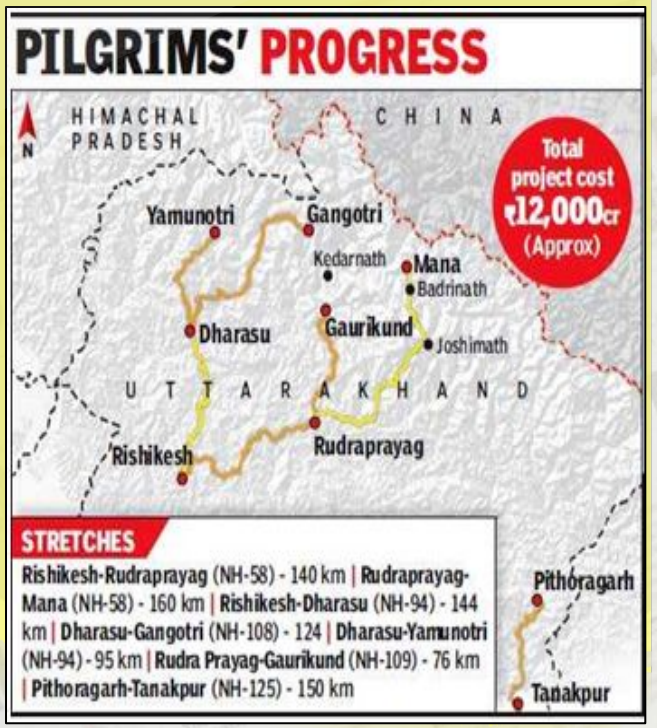


A torchlight protest in Joshimath

Context: Widening of the all-weather **Char Dham road between Helang and Marwari** was stopped "until further orders" by the Chamoli district administration after thousands of Joshimath residents, anxious about the "sinking" town, blocked the Badrinath national highway 58 for hours, following a night of vigil and a day of protests.

Char Dham Highway Project

- **About**: A t**wo-lane highway project currently under construction** in the state of **Uttarakhand** by the Border Road Organisation.
  - Upon the completion of the project, it will connect the four important pilgrim towns of **Badrinath, Kedarnath, Gangotri and Yamunotri.**
- **Origin**: The foundation stone of the project was laid at Parade Ground in Dehradun by Prime Minister on December 27 **2016**.
- **To improve the connectivity**: The highway construction project is called as **Char Dham Mahamarg Vikas Pariyojana** and its aim is to improve the connectivity to the Chota Char Dham.
  - The **Chota Char Dham** itself is a pilgrim circuit nestled in the Himalayas.
  - It will widen almost 900 km of highways connecting the pilgrimage sites and the **Tanakpur-Pithoragarh stretch of National Highway (NH) 125,** a part of the Kailash Mansarovar Yatra route.
- **Nodal Ministry**: Ministry of **Road Transport and Highways.**
- **Implementing Agencies:** Uttarakhand State Public Works Department (PWD), **Border Roads Organisation (BRO)** and the National Highway & Infrastructure Development Corporation Limited (NHIDCL).
  - NHIDCL is a fully owned company of the Ministry of Road Transport & Highways.



PIB JAN 6

EAT RIGHT STATION
(Syllabus: GS Paper 2 - Health)

Varanasi Cantt Railway Station awarded 'Eat Right Station' with a 5-star rating certification by FSSAI

Context: Indian Railways' **Varanasi Cantt Railway Station** has been awarded a 5- star **'Eat Right Station'** certification for providing high-quality, nutritious food to passengers.

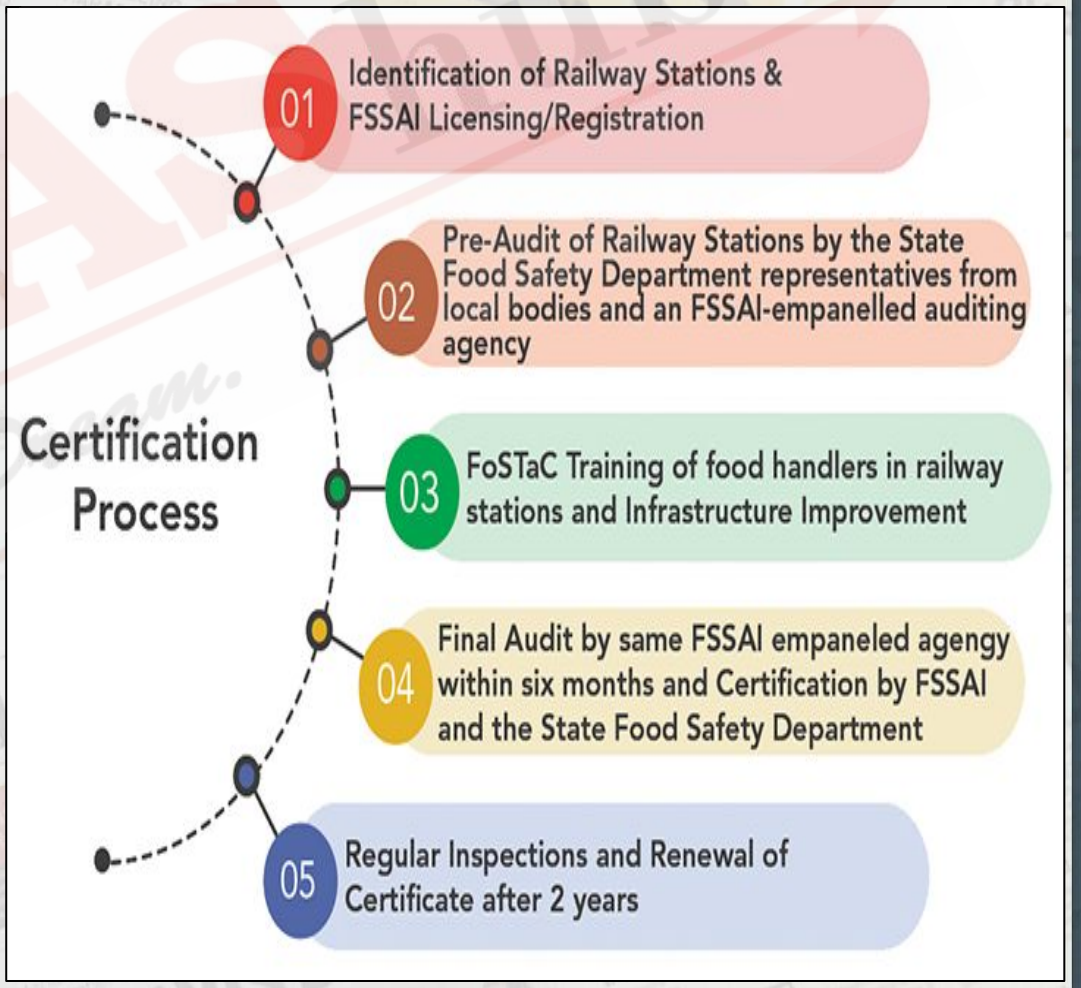
- The other railway stations with Star certification include Anand Vihar Terminal Railway Station (Delhi); Chhatrapati Shivaji Terminus (Mumbai); Mumbai Central Railway Station, (Mumbai); Vadodara Railway Station, Chandigarh Railway Station and Bhopal Railway Station.

Key Points

- The 'Eat Right Station' **certification is awarded by FSSAI** to railway stations that set benchmarks in providing safe and wholesome food to passengers.
- The station is awarded a certificate upon a conclusion of an **FSSAI-empanelled third-party audit agency with ratings from 1 to 5.**
- The **5-star rating indicates full compliance by the station** to ensure safe and hygienic food is available to passengers.
- The certification is **part of the 'Eat Right India' movement.**

'Eat Right India' movement

- **About**: It is an **initiative of FSSAI** to transform the country's food system in order to ensure safe, healthy and sustainable food for all Indians.
  - Its tagline is **'Sahi Bhojan, Behtar Jeevan'**.
- **Objectives**: It is **aligned to the National Health Policy 2017** with its focus on preventive and promotive healthcare and flagship programmes like Ayushman Bharat, POSHAN Abhiyaan, Anaemia Mukt Bharat and Swachh Bharat Mission.
- **Approach**: Eat Right India **adopts a judicious mix of regulatory, capacity building, collaborative, and empowerment approaches** to ensure that our food is suitable both for the people and the planet.



PIB JAN 6

NaBF4 ELECTROLYTE

(Syllabus: GS Paper 3 - Sci & Tech)

New electrolyte found can help better ammonia synthesis

Context: Scientists have introduced **a new electrolyte called (NaBF4),** which not only acts as an N2-carrier in the medium but also works as a full-fledged "co-catalyst" along with active material transition metal-doped nanocarbon (MnN4) to deliver high yield of ammonia (NH3) at absolutely ambient experimental conditions.

Key Points

- The **electrochemical ammonia synthesis** is largely limited by the poor solubility of nitrogen (N2) in the aqueous electrolyte environment as well as the competitive hydrogen evolution reaction.
- The obstacle faced was that **reduction of N2 has actually occurred in the aqueous medium.**
- The new aqueous electrolyte can **help make electrochemical ammonia synthesis more efficient** which will be useful for industries producing green energy or hydrogen.
- The **high production rate of NH3** approached industrial scale and exceeded almost all the standard catalysts in any other electrolyte medium.

Electrolyte

- **About**: An electrolyte is a substance that **forms a solution that conducts electricity** when dissolved in a polar solvent.
  - **Cations** are positively charged ions.
  - **Anions** are charged ions.
  - **Acids, bases, and salts** are the most commonly known electrolytes.
- **Working of Electrolyte**: The **addition or removal of electrons** from the external circuit causes an exchange of ions and atoms during the electrolysis process.
  - **Cations travel to the cathode** as current flows through them, taking electrons from the cathode and discharging them into the neutral atom.
  - When **neutral atoms are solid**, they are deposited on the cathode and migrate upward when they are gases.
  - The **cation is reduced at the cathode** in this reduction process.

DTE

JAN 6

VACCINE FOR HONEYBEES

(Syllabus: GS Paper 3 - Env & Eco)



WILDLIFE & BIODIVERSITY

World's first vaccine for honeybees gets conditional nod in US

Bacterial disease American foulbrood is fatal, routinely ravages colonies

NEXT NEWS >

By Nandita Banerji
Published: Thursday 05 January 2023

Context: The **United States Department of Agriculture (USDA)** has granted a conditional license for a vaccine for honeybees to curb **American foulbrood (AFB)**, a fatal bacterial disease for the insect.

Key Points

- AFB is caused by the spore-forming bacterium **Paenibacillus larvae.**
- Infected broods usually die at the **pre-pupal or pupal stage.**
- The **disease cannot be cured**, meaning that the destruction of infected colonies and hives or irradiation of infected material is the only way to manage AFB.
- The bacteria Melissococcus plutonius causes another similar disease, **European foulbrood.** However, the incidence of EFB is generally higher when the colony is under stress.

Species of bees

- **Different species:** There are almost **20,000 different species** of bees in the world.
- **Habitat**: Bees **live in colonies**.
- **3 types:** In each colony, there are **three types of bees**, the queen bee, the worker bee, and the drone.
- **Females**: The **worker and the queen bee** both are females**,** but only the queen bee can reproduce.
- **Males:** All **drones** are male.
- **World Bee Day**: celebrated annually on 20th May

Honeybee in India

- **4 species**: India is home to **four of the seven known bee species.**
  - **Two of these are domesticated**: Apis cerana (oriental honey bee) and Apis mellifera (European honey bee).
  - **Other two are wild**: Apis dorsata (giant/rock honey bee) and Apis florea (dwarf honey bee).
- **New Species**: Recently, **a new species of endemic honeybee named Apis karinjodian** has been discovered in the Western Ghats after a gap of more than 200 years.
  - **Common Name:** Indian black honeybee.
  - **IUCN Red List**: Near Threatened (NT)
  - **Distribution**: Ranges from the central Western Ghats and Nilgiris to the southern Western Ghats, covering the States of Goa, Karnataka, Kerala and Tamil Nadu.

Government initiatives

- **Sweet Revolution**: For promoting apiculture, popularly known as **'beekeeping'**.
- **National Beekeeping and Honey Mission**: To provide a booster shot to **Sweet Revolution**.
- **Assistance for Setting up of Processing Units**: Provide assistance to the **beekeepers for setting up of Processing Units.**
- **Adopting Scientific Techniques**: Focus on **capacity building of beekeepers** for production of honey by adopting scientific techniques.

DTE

JAN 6

GLOBAL PLASTICS TREATY

(Syllabus: GS Paper 3 - Env & Eco)

Discord from beginning: First round of talks for a global plastic treaty was not a success; here is why

Industry representatives attended the event, even as civil society was often not allowed at most closed door meetings

By Siddharth Ghanshyam Singh
Published: Thursday 05 January 2023



Complete Lifecycle of Plastics

The lifecycle entails the extraction, production, utilisation and disposal of the plastics. A detailed study has been done by the Environmental Investigation Agency of the UK.

Stage in lifecycle	Key observations by EIA, UK	
Extraction	• 2 billion tonnes of GHG emissions per year • 10,000 additive chemicals used, (25 % being hazardous)	
Production	• 460 million tonnes of plastic produced every year • 2,30,000 tonnes of plastic pellets enter the environment each year	
Use	• Per capita use of plastic is as high as 221 kilogram for some countries • Half of all the plastics used is single-use plastic (SUP)	
End of life	**Managed** • Only 9% of all plastics ever produced have been recycled • Over 90 % of plastic waste goes to landfills, is dumped or incinerated	**Mismanaged** • 12 million tonnes leak into the ocean every year • Land pollution is up to 23 times worse than ocean pollution

Context: On December 2, 2022, negotiators responsible for carving out a **global treaty on ending plastic pollution by 2024** concluded their first ever meeting in Punta Del Este, Uruguay.

Global Plastics Treaty

- **About**: In a biggest multilateral environmental deal, 175 countries have agreed to a **legally binding global treaty called "Global Plastics Treaty"**, to end the plastic pollution crisis by tackling the entire supply chain of material in March 2022.
  - The resolution on first treaty was passed at meeting of UN Environment Assembly (UNEA) in Nairobi in Kenya.
  - First treaty directly seeks to tackle 9 billion tonnes of plastic produced since plastic age ramped up in 1950s.
  - Now, they have started working on how to **implement the treaty by 2024.**
- **Two competing ideas were put forward**:
  - One idea is led by **Peru and Rwanda.**
    - It **encompassed all stages of life cycle of plastics**, starting from production, consumption and disposal.
  - Second idea was a far more **limited deal.**
    - It **focused on plastics in oceans.**
    - It was spearheaded by **Japan.**
- **Financing model:** The treat acknowledges that l**ower-income countries will find it difficult to tackle plastic pollution** than high-income ones.
  - Thus, there is a need of financing model, in order to help in curbing plastic use and waste.

United Nations Environment Assembly

- **About**: It is the **governing body** of the UN Environment Programme.
  - It is the **world's highest-level decision-making body** on the environment.
- **Origin**: It was **created in June 2012**, during the United Nations Conference on Sustainable Development, also referred to as **RIO+20.**
- **Members**: The Assembly is made up of the **193 UN Member States** and convenes every two years to advance global environmental governance.

THANK YOU!

t.me/theiashub

/mkyadav

www.theiashub.com/daily-quiz

9560082909