



## India's E-cooking Transition on World Environment Day

**For Prelims:** [World Environment Day](#), [Bureau of Energy Efficiency \(BEE\)](#), [e-cooking](#), [Saubhagya program](#), [Mission Lifestyle for Environment\(LiFE\)](#), [renewable energy sources](#), [Sustainable Development Goal 7.1](#)

**For Mains:** E-cooking alternative to traditional cooking methods, Role of LiFE initiative in promoting sustainable lifestyles, Sustainable Development Goal 7.1

### Why in News?

[World Environment Day](#), observed **annually on June 5<sup>th</sup>**, serves as a platform to raise awareness about environmental protection and sustainability.

- On the 50<sup>th</sup> anniversary of this significant day, the [Bureau of Energy Efficiency \(BEE\)](#) and the **Collaborative Labeling and Appliance Standards Program (CLASP)**, an international non-governmental organization organized a "**Conference on Consumer-Centric Approaches for E-cooking Transition**" in New Delhi.
  - The conference aimed to accelerate the deployment of **energy-efficient, clean, and affordable e-cooking solutions in India.**

### What are the Key Highlights About World Environment Day 2023?

- **About:**
  - The [United Nations Assembly](#) established **World Environment Day on 5<sup>th</sup> June 1972**, which was the first day of the [Stockholm Conference on the human environment](#).
  - It is hosted by a different country each year.
    - **India in 2018 hosted the 45<sup>th</sup> celebration** of World Environment Day under the theme '**Beat Plastic Pollution**'.
  - The year 2023 World Environment Day is hosted by **Côte d'Ivoire** in partnership with the Netherlands.
  - This year marks the **50<sup>th</sup> anniversary of World Environment Day.**
- **Theme for 2023:**
  - The theme will focus on solutions to **plastic pollution under the campaign #BeatPlasticPollution.**
- **Objective:**
  - Raise awareness, mobilize communities, and encourage collaborative efforts to **address plastic pollution and promote a healthier and more sustainable environment.**

### What is E-Cooking?

- **About:**
  - E-cooking involves the use of **electric cooking appliances as a clean and energy-efficient** alternative to traditional cooking methods.
  - It encompasses the adoption of **electric stoves, induction cooktops, and other electric cooking devices in households.**
- **Transition to E-cooking:**

- India's achievement of **24/7 electricity** access has been a significant driver for the transition to e-cooking.
- The **Saubhagya Scheme** has played a pivotal role in **providing electricity connections** to millions of households, **eliminating power cuts**, and creating an environment conducive to the adoption of electric cooking.
- **The Role of LiFE:**
  - E-cooking plays a vital role in the **Mission Lifestyle for Environment (LiFE) initiative**.
    - Launched by **Prime Minister Narendra Modi** at the **26<sup>th</sup> UN Climate Change Conference of the Parties (COP26)** in 2021.
    - Mission LiFE aims to **transform individuals into pro-planet advocates and promote sustainable lifestyles**.
  - Access to **clean cooking energy** is an essential aspect of India's energy transition journey, **aligning with the goals of Mission LiFE**.
- **E-Cooking as the Future of the Indian Kitchen:**
  - With reliable electricity access, e-cooking is poised to become the future of Indian kitchens.
  - The scalability and affordability of electric cooking technology make it a viable option for both urban and rural areas.
- **Affordable E-Cooking Business Models:**
  - Developing affordable business models is crucial to promote widespread adoption of e-cooking solutions.
  - Utilizing **renewable energy sources**, such as **solar and thermal power**, can help reduce costs and make e-cooking more accessible.
  - Implementing aggregation models and price reduction strategies can further enhance affordability, enabling e-cooking to reach a larger population.
- **Minimal Technology Barriers:**
  - E-cooking faces minimal technology barriers, as concerns regarding **appliance faults and compatibility with various dishes have been addressed**.
  - Replicating successful e-cooking models at scale and gradually replacing traditional cookers with electric ones can build consumer confidence and facilitate a smooth transition.
- **Benefits for the Power Sector and Consumers:**
  - E-cooking presents a win-win situation for both the power sector and consumers.
  - It aligns with **Sustainable Development Goal 7.1**, ensuring universal access to clean cooking and improving indoor air quality.
  - **E-cooking can reduce energy consumption** in reheating and contribute to a cleaner, greener lifestyle.

## What are the Other Initiatives Shaping India's Energy Transition?

- **[Pradhan Mantri Sahaj Bijli Har Ghar Yojana \(SAUBHAGYA\)](#)**
- **[Green Energy Corridor \(GEC\)](#)**
- **[National Smart Grid Mission \(NSGM\) and Smart Meter National Programme](#)**
- **[Faster Adoption and Manufacturing of \(Hybrid &\) Electric Vehicles \(FAME\)](#)**
- **[International Solar Alliance \(ISA\)](#)**

## What is Bureau of Energy Efficiency?

- The Government of India set up the Bureau of Energy Efficiency in March 2002 under the provisions of the **Energy Conservation Act, 2001**.
- It assists in developing policies and strategies with the primary objective of reducing energy intensity of the Indian economy.
- **Major Programmes:** **[State Energy Efficiency Index](#)**, **[Perform Achieve and Trade \(PAT\) scheme](#)**, The Standards & Labeling Programme, Energy Conservation Building Code.

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Prelims

**Q. Consider the following statements: (2016)**

1. The Sustainable Development Goals were first proposed in 1972 by a global think tank called the 'Club of Rome'.
2. The Sustainable Development Goals have to be achieved by 2030.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans: (b)**

### Mains

**Q.** Access to affordable, reliable, sustainable and modern energy is the sine qua non to achieve Sustainable Development Goals (SDGs)." Comment on the progress made in India in this regard. **(2018)**

[Source: PIB](#)

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## Derailments in Indian Railways

**For Prelims:** [Comptroller and Auditor General of India \(CAG\)](#), **Derailment in India**, [Rashtriya Rail Sanraksha Kosh \(RRSK\)](#), [Kavach](#).

**For Mains:** Functionality of Kavach, Factors Responsible for Derailments.

### Why in News?

The tragic train accident that occurred on June 2, 2023, at **Bahanaga Bazar railway station in Odisha's Balasore district**, has highlighted the **urgent need for effective safety measures to prevent such devastating incidents**.

- The recent incident has brought attention to the **Kavach initiative**, which aims to enhance railway safety in India. However, the **Kavach system has not been implemented on the Odisha route**.
- [Comptroller and Auditor General of India \(CAG\)](#)'s 2022 report on 'Derailments in [Indian Railways](#)' flagged multiple shortcomings on the **causes of train accidents in the country**.

**What are the Major Highlights of the Report?**

- **About:**
  - The CAG report reveals that nearly **75% of the consequential train accidents between 2017-18 and 2020-21 were caused by derailments.**
- **Derailments: The Leading Cause of Train Accidents**
  - Out of **217 consequential train accidents**, 163 (around **75%**) were caused by **derailments.**
  - Other causes of train accidents include **fire in trains (20 accidents), accidents at unmanned level-crossings (13 accidents), collisions (11 accidents), accidents at manned level crossings (8 accidents),** and miscellaneous incidents (2 accidents).

## Classification of Train Accidents:

- The Railway Board classifies train accidents into two categories: **Consequential Train Accidents and Other Train Accidents.**
- Consequential Train Accidents include accidents with significant repercussions, such as **loss of life, human injury, property damage, and interruption to railway traffic.**
- **Other Train Accidents** encompass all accidents that do not fall under the consequential category.
  
- **Factors Responsible for Derailments:**
  - Analysis of inquiry reports revealed **23 factors contributing to derailments in 16 Zonal Railways and 32 divisions.**
  - The major factor responsible for derailments was related to **maintenance of track (167 cases)**, followed by **deviation of track parameters beyond permissible limits** (149 cases) and **bad driving/overspeeding** (144 cases).
- **Rashtriya Rail Sanraksha Kosh (RRSK):**
  - The CAG also analysed the performance of **RRSK**, established in **2017-18 to strengthen safety measures on the rail network to prevent accidents with a corpus of Rs 1 lakh crore.**
    - The audit found that while the **Gross Budgetary Support of Rs 15,000 crore had been contributed**, the Railways' internal resources fell short of the target for funding the remaining **Rs 5,000 crore per year to RRSK.**
  - This shortfall of funds from internal resources undermined the primary objective of creating RRSK to enhance safety in Railways.
- **Declining Allotment of Funds for Track Renewal:**
  - The report highlighted a **decline in the allotment of funds for track renewal works**, from **Rs 9,607 crore in 2018-19 to Rs 7,417 crore in 2019-20.**
    - Furthermore, the allocated funds for track renewal works were not fully utilised.
    - Out of **1,127 derailments during 2017-21**, 289 derailments (**26%**) were linked to track renewals.
- **Recommendations and Pending Projects:**
  - The CAG report recommended **strict adherence to scheduled timelines for conducting and finalising accident inquiries.**
    - Indian Railway (IR) may develop a **strong monitoring mechanism to ensure timely implementation of maintenance activities** by adopting fully mechanised methods of track maintenance and improved technologies.
  - IR may prepare the **'Detailed Outcome Framework'** for each item of safety work as per the indicative outcomes to **gauge whether the benefits derived out of the RRSK funds are in the conformity with the objectives** behind the creation of the Fund

**Note:** Derailment refers to the situation when a train or any other rail vehicle goes off the tracks, resulting in a loss of stability and the inability to continue moving along its intended path. It is a critical safety incident that can lead to significant damage, injuries, and even fatalities.

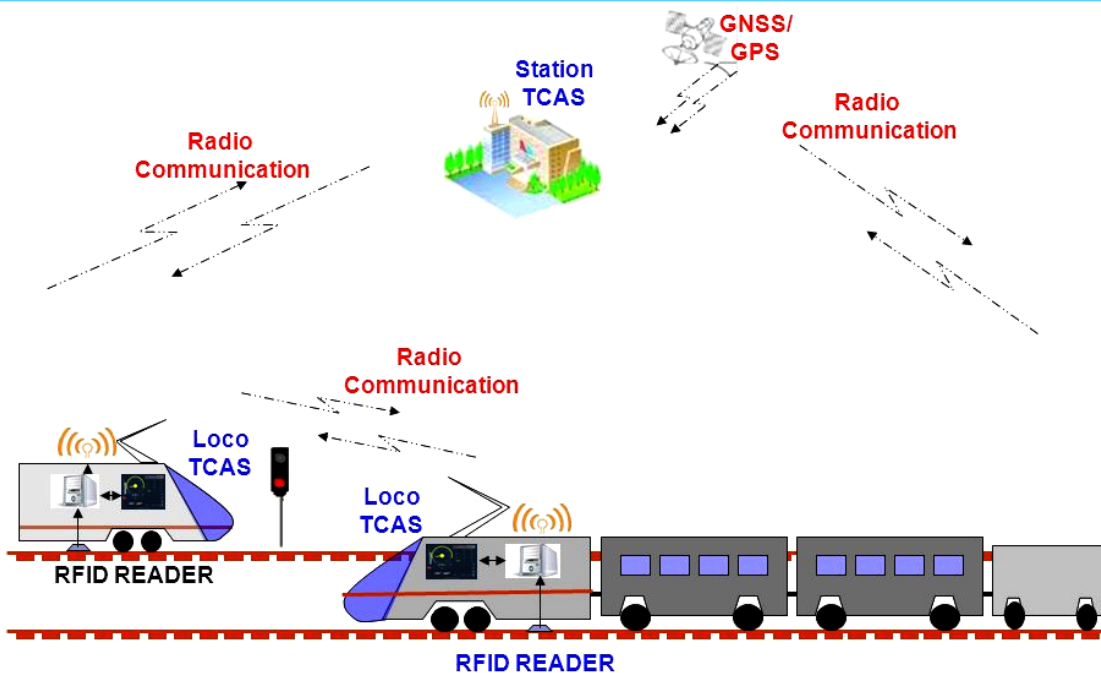
## What is Kavach?

- **About:**
  - **Kavach** is an **indigenously developed Automatic Train Protection (ATP) system**

aimed at enhancing safety in train operations across the vast network of Indian Railways.

- Developed by the **Research Design and Standards Organisation (RDSO)** in association with three Indian vendors, it has been adopted as our **National Automatic Train Protection (ATP) System**.
- The **Indian Railways Institute of Signal Engineering & Telecommunications (IRISET)** in Secunderabad, Telangana hosts the '**Centre of Excellence**' for Kavach.
  - IRISET is responsible for training in-service railway staff on Kavach through its dedicated Kavach lab.
- **Functionality:**
  - The system meets **Safety Integrity Level-4 (SIL-4) standards**, signifying its high reliability.
  - **Prevents trains from passing red signals** and enforces speed restrictions.
  - Activates the braking system automatically if the driver fails to control the train.
  - Prevents collisions between two locomotives equipped with Kavach systems.
  - Relays **SoS messages during emergency situations**.
  - Offers **centralised live monitoring of train movements** through the Network Monitor System.
  - Utilises **Traffic Collision Avoidance System (TCAS)** for two-way communication between the station master and loco-pilot.

## // TCAS - System configuration



- **Implementation and Deployment of Kavach:**
  - Of the total route length of **1.03 lakh kilometres**, only 1,455 kilometres have been brought under Kavach yet.
    - The **South Central Railway (SCR) Zone** has been at the forefront of Kavach implementation.

## Way Forward

- **Utilising Data Analytics and AI:** Utilise **big data analytics** and **artificial intelligence** to analyse vast amounts of data collected from **trains, tracks, and infrastructure**. This can help

identify patterns, detect anomalies, and predict potential safety risks, enabling proactive interventions.

- **Implementing Kavach Project:** It is crucial to **expedite the implementation of the Kavach project** on the **Howrah-Chennai line passing through at least four railway zones**.
  - Other railway zones should prioritise the installation of the Kavach system to **ensure enhanced safety measures across the entire route**.

[Source: IE](#)

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## Strengthening India-Nepal Cooperation

**For Prelims:** [India and Nepal Relations](#), [Exercise Surya Kiran](#), [2015 Earthquake](#), India-Nepal Treaty of Peace and Friendship of 1950, Phukot Karnali Hydro Electric Project, Lower Arun Hydroelectric Project, Gorakhpur-Bhutwal Transmission Line.

**For Mains:** Areas of Cooperation Between India and Nepal, Recent Major Issues Related to India-Nepal Relations.

### Why in News?

[India and Nepal](#) have recently unveiled **several initiatives and agreements** during the 4-day visit of the Prime Minister of Nepal to India to boost their bilateral cooperation in the fields of energy and transport development, **aiming to strengthen ties and facilitate regional connectivity**.

### What are the Major Highlights of Recent Agreement?

- **Power Sector Cooperation:**
  - **Long-Term Power Trade Agreement:** India and Nepal signed a long-term Power Trade Agreement, targeting the import of **10,000 MW of electricity from Nepal in the coming years**.
- **Hydropower Projects:** Memoranda of Understanding (MoUs) were signed between **National Hydroelectric Power Corporation (NHPC), India and Vidyut Utpadan Company Ltd, Nepal** for the development of the **Phukot Karnali Hydroelectric Project and the Lower Arun Hydroelectric Project**.
  - **Also**, the two Prime Ministers expressed their commitment to achieving tangible and time-bound progress on the [Pancheshwar multipurpose project](#), which aims to enhance **cooperation in harnessing the shared water resources of the [Mahakali River](#)**.

**Note:** Phukot Karnali Hydro Electric Project aims to generate **480 MW of power using the flow from the [Karnali River](#)**, with an average annual generation of about 2448 GWh. It includes a high **RCC (Reinforced Concrete Cement) dam and an underground power house**.

- **Transport Development:**
  - **Transmission Line and Rail Link:** The groundbreaking ceremony for the **Gorakhpur-Bhutwal Transmission Line** and the inauguration of the **Indian Railway cargo train from Bathnaha to Nepal Customs Yard** highlighted the focus on enhancing connectivity between the two countries.
  - **Integrated Checkposts (ICPs):** ICPs were inaugurated at **Nepalgunj (Nepal) and Rupaidiha (India)**, promoting smoother cross-border trade and facilitating the movement



of goods and people.

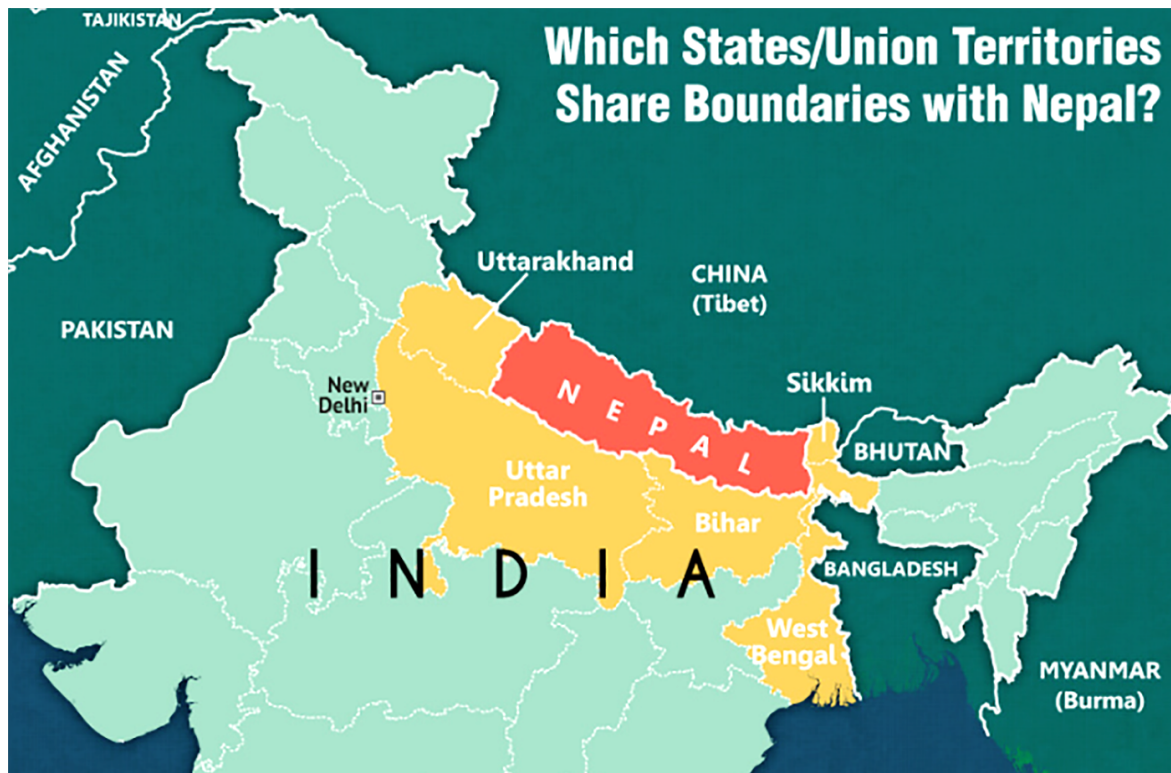
▪ **Other Initiatives:**

- A plan to **extend South Asia's first cross-border petroleum pipeline** from **Motihari in India to Amlekhgunj in Nepal** by another 69 km up to **Chitwan in Nepal**.
  - Also, a second cross-border petroleum pipeline **from Siliguri in India to Jhapa in eastern Nepal**.
- A **revised Treaty of Transit signed on June 1, 2023**, that will give **Nepal access to India's inland waterways**.
  - This will **enable Nepal to use Indian ports such as Haldia, Kolkata, Paradip and Visakhapatnam** for its third-country trade.
  - It will also reduce transportation costs and time for Nepalese exporters and importers.
- India is also cooperating with Nepal to set up a **fertiliser plant**, emphasising the **importance of collaboration in the agricultural sector**.

## What are the Other Areas of Cooperation Between India and Nepal?

▪ **About:**

- As close neighbours, **India and Nepal share unique ties of friendship and cooperation** characterised by an **open border and deep-rooted people-to-people contacts of kinship and culture**.
  - The **India-Nepal Treaty of Peace and Friendship of 1950** forms the bedrock of the special relations that exist between India and Nepal.
- Nepal shares a border of over **1850 km with five Indian states - Sikkim, West Bengal, Bihar, Uttar Pradesh and Uttarakhand**.
  - There has been a long tradition of free movement of people across the border.



▪ **Defence Cooperation:**

- India has been assisting the **Nepal Army (NA)** in its modernisation by supplying equipment and providing training.
- The 'Indo-Nepal Battalion-level **Joint Military Exercise Surya Kiran**' is conducted **alternately in India and in Nepal**.
  - Also, Currently, about **32,000 Gorkha Soldiers** from Nepal are serving in the Indian Army.

▪ **Economic Cooperation:**

- India is the **largest trading partner of Nepal**. Nepal is also India's 11th largest export destination.
  - In 2022-23, India exported goods worth **USD 8 billion to Nepal while its imports were at USD 840 million**.
- Indian firms are among the largest investors in Nepal, accounting for **more than 30% of the total approved [foreign direct investments](#)**.
- **Cultural Cooperation:**
  - India and Nepal share similar ties in terms of Hinduism and [Buddhism](#) with **Buddha's birthplace Lumbini located in present day Nepal**.
  - The [Swami Vivekananda Centre for Indian Culture](#) was set up in Kathmandu in August 2007 to showcase the best of Indian culture.
  - The **Nepal-Bharat Library was founded in 1951 in Kathmandu**. It is regarded as the first foreign library in Nepal.
- **Humanitarian Assistance:**
  - India has provided **1.54 billion Nepalese Rupees (INR nearly 96 crore)** to Nepal as part of its commitment towards assistance and rehabilitation after the [2015 earthquake](#).

## What are Recent Major Issues Related to India-Nepal Relations?

- **Boundary Dispute:** The boundary dispute is one of the contentious issues that has strained India-Nepal relations in recent years. The dispute mainly involves two segments:
  - **Kalapani-Limpiyadhura-Lipulekh trijunction area** in western Nepal and Susta area in southern Nepal.
    - Both countries claim these areas as part of their territory based on different historical maps and treaties.
  - The dispute flared up in **2020 when India inaugurated a road linking Dharchula in Uttarakhand with Lipulekh pass near the China border**, which Nepal objected to as a violation of its sovereignty.
  - Nepal then issued a new political map that shows **Kalapani-Limpiyadhura-Lipulekh as part of its territory. India rejected this map as "artificial enlargement" of Nepalese claims**.
- **China's Rising Footprints:**
  - The rise of [China's influence in Nepal](#) has raised concerns in India about its strategic interests in the region. China has increased its economic engagement with Nepal through projects under its [Belt and Road Initiative \(BRI\)](#) such as railways, highways, hydropower plants etc.
    - Rising Nepal and China cooperation can undermine **Nepal's distinction of a buffer state between India and China**.

## Way Forward

- **Strengthening Digital Connectivity:** Emphasizing digital connectivity initiatives can provide an innovative way to engage with Nepal.
  - India can support the development of Nepal's digital infrastructure, **promote e-governance initiatives, and foster cross-border digital collaborations**. This can enhance connectivity, create economic opportunities, and strengthen bilateral relations.
- **Strategic Partnerships:** India should actively seek strategic partnerships with Nepal on regional and global platforms. By aligning their interests and jointly addressing common challenges, such as **climate change, disaster management, and regional security**, both countries can demonstrate their commitment to shared values and interests.
  - This will not **only counterbalance China's influence but also strengthen the regional stability**. Also, organizing joint cultural events, **film festivals, and wellness retreats to showcase India's rich heritage can** influence public opinion.

## UPSC Civil Services Examination Previous Year Question (PYQ)

Q. Consider the following pairs: (2016)



## Community sometimes In the affairs of mentioned in the news

1. Kurd — Bangladesh
2. Madhesi — Nepal
3. Rohingya — Myanmar

Which of the pairs given above is/are correctly matched?

- (a) 1 and 2
- (b) 2 only
- (c) 2 and 3
- (d) 3 only

Ans: (c)

[Source: TH](#)

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## Salt Cavern Based Oil Reserves: SPR

**For Prelims:** Salt Cavern Based Oil Reserves, Rock Based Cavern, Strategic Petroleum Reserve Program, [IEA](#), [PPP](#).

**For Mains:** Advantage of Salt Cavern Based Oil Reserves over Rock Based Cavern and its Potential.

### Why in News?

Government-owned engineering consultancy firm **Engineers India Ltd. (EIL)** is studying the prospects and feasibility of developing **Salt Cavern-Based Strategic oil Reserves** in Rajasthan.

- The study is in line with the government's objective of **increasing the country's strategic oil storage capacity**.

### What is Salt Cavern-based Reserves?

- **About:**
  - Salt caverns are underground spaces formed by **dissolving salt in water through a process** called solution mining.
  - This method involves **pumping water into areas with large salt deposits** to dissolve the salt and create caverns. Once the brine (water with dissolved salt) is removed, these caverns can be used to store crude oil.

## OPERATING A SALT CAVERN

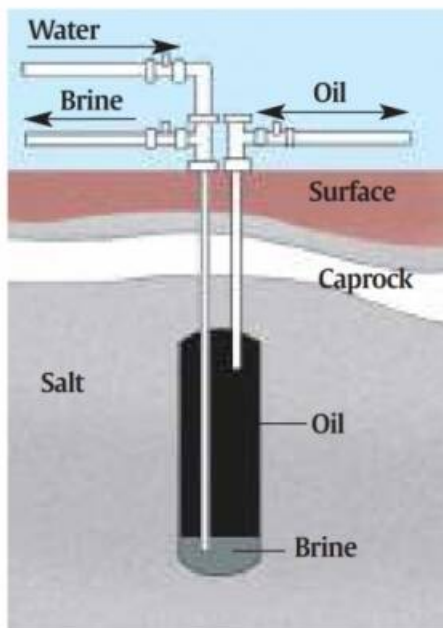


Illustration based on MIT Environmental Solutions Initiative report, August 2020

**CRUDE OIL**, natural gas, or other petroleum substances that might be stored in the reserve are extracted by pumping brine into the cavern. The petroleum substance has a lower density, and is pushed out.

**TO ADD** more petroleum substance to the reserve, the requisite volume of brine is pumped out, creating the required space.

**THIS OPERATION** of extraction and replenishment is done from the surface, usually through two pipeline systems – one each to the residual brine at the bottom of the cavern and the stored hydrocarbon. Since their densities differ, the brine does not mix with the stored substance.

**A SURFACE** brine pond is usually maintained for use in operating the cavern. The brine can be reused repeatedly.

### ▪ Rock Based Cavern:

- Excavated rock-based caverns for oil reserves are underground spaces created by **manually excavating and removing rock materials** to form large storage cavities.
- Excavated rock caverns are constructed by **drilling, blasting, and removing rock layers** to create the desired storage space. The rock walls and ceilings of these caverns serve as the natural **barriers for containing the stored oil**.

### ▪ Significance of Salt Based-Cavern Over Rock Based Cavern:

- Salt cavern **development is simpler, faster, and less expensive**. Salt cavern-based oil storage facilities are **naturally well-sealed and designed for efficient** oil injection and extraction.
- A report by MIT's Environmental Solutions Initiative suggests that storing oil in salt caverns is **more favorable than other geological formations**.
- The salt lining **the caverns has very low oil absorbency**, creating a natural impermeable barrier against liquid and gaseous hydrocarbons. This characteristic makes salt caverns suitable for oil storage.
  - The **United States' Strategic Petroleum Reserve (SPR)**, the largest emergency oil storage globally, **relies exclusively on salt cavern-based facilities**.

### ▪ Potential of Salt Based Cavern:

- Salt cavern-based storage, which is considered cheaper and less labour- and cost-intensive than rock caverns, **could add a new, much-needed chapter** to India's SPR story.
- Rajasthan, with its abundant salt formations, is considered the **most suitable location in India** for developing salt cavern-based strategic storage facilities.
- The presence of a refinery in Barmer and crude oil pipelines in Rajasthan **makes the infrastructure conducive for building strategic** oil reserves.

## What are the Challenges to Build a Salt Based Cavern for Oil Reserves?

- Indian companies have **lacked the technical expertise required to construct salt cavern-based strategic** storage facilities.
  - However, EIL has recently partnered with Germany, a company specializing in cavern storage and solution mining technology, to bridge this knowledge gap.
- Identifying suitable sites for salt cavern-based storage facilities is crucial. While Rajasthan has abundant salt formations and favorable infrastructure such as crude pipelines and a new refinery

in Barmer, **specific sites within the region need to be assessed for their geological and technical suitability.**

- Estimating the project cost is a challenge until the technology and knowledge required for building salt cavern-based storage facilities are obtained. Factors such as site preparation, construction, and operational considerations need to be taken into account, along with other associated costs.

## What is India's Strategic Petroleum Reserves Programme?

### ▪ About:

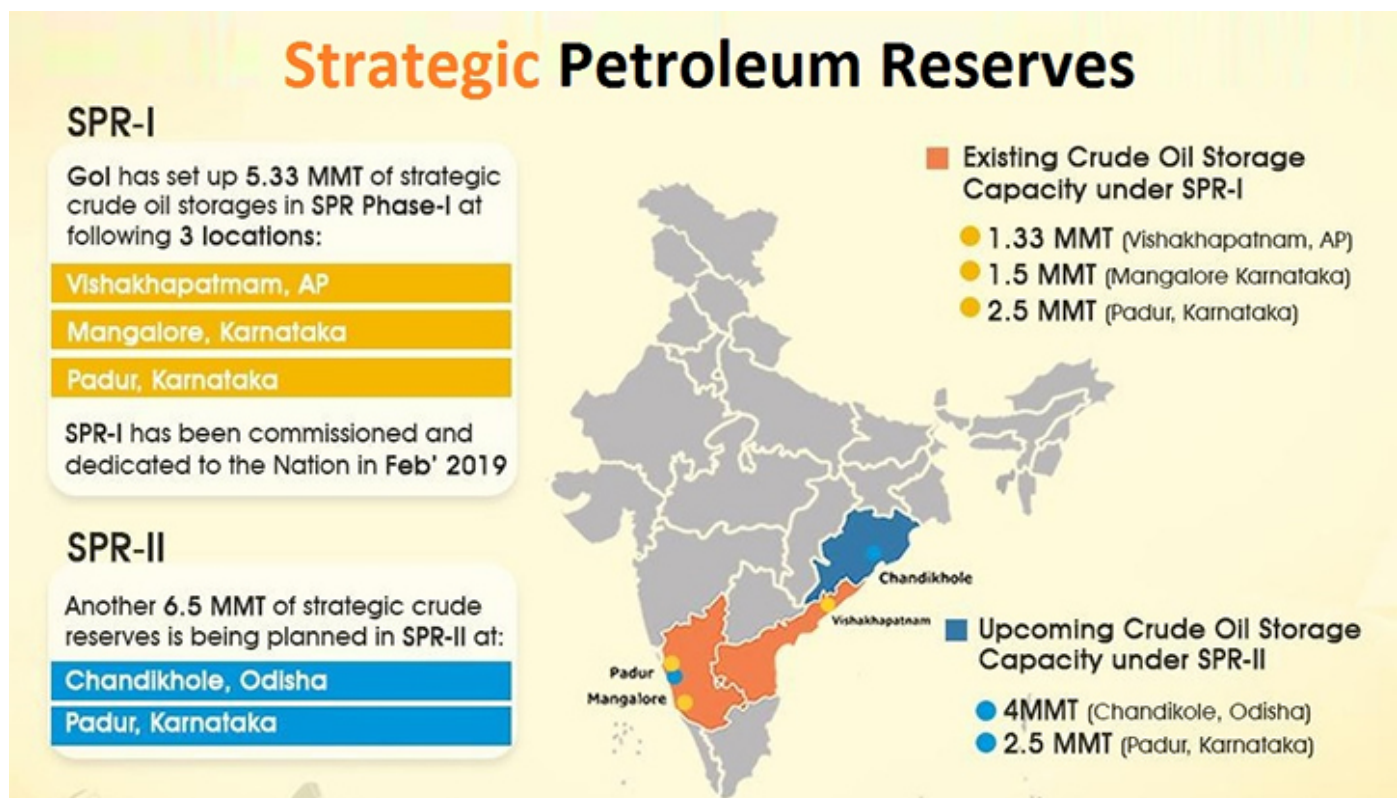
- The construction of the Strategic Crude Oil Storage facilities in India is being managed by [Indian Strategic Petroleum Reserves Limited \(ISPRL\)](#).
  - ISPRL is a wholly owned subsidiary of Oil Industry Development Board (OIDB) under the Ministry of Petroleum & Natural Gas.
- Strategic crude oil storages are at Mangalore (Karnataka), Visakhapatnam (Andhra Pradesh) and Padur (Karnataka) as per Phase I. They have fuel storage of **total 5.33 MMT (Million Metric Tonnes)**.

### ▪ Additional Reserves under PPP:

- The government of India is planning to set up two more such caverns at Chandikhol (Odisha) and Udupi (Karnataka) as per phase II through [Public-Private Partnership](#). This will give an additional 6.5 million tons of the oil reserves.
- After the new facilities get functional, a total of 22 days (10+12) of oil consumption will be made available.

### ▪ Capacity/Industrial Stock:

- With the strategic facilities, Indian refiners also maintain crude oil storage (industrial stock) of 65 days.
- Thus, approximately a total of 87 days (22 by strategic reserves + 65 by Indian refiners) of oil consumption will be made available in India after completion of Phase II of the SPR programme.
  - This will be very close to the 90 days mandate by the IEA.
- India became an associate member of the IEA in 2017 and recently, [IEA has invited India to become a full time member.](#)



### ▪ Need for Expanding the Capacity of SPR:

- India, the world's third-largest consumer of crude, depends on imports for more than 85%

of its requirement — and **SPR** can help **ensure energy security and availability during global supply shocks** and other emergencies.

- India is in the process of expanding its SPR capacity by a cumulative 6.5 million tonnes at two locations — Chandikhol in Odisha (4 million tonnes) and Padur (2.5 million tonnes).
  - India currently has an **SPR capacity of 5.33 million tonnes**, or around 39 million barrels of crude, that can meet around 9.5 days of demand.

## Way Forward

- Conducting comprehensive **geological and technical assessments of potential sites in Rajasthan is crucial**.
- Undertaking a comprehensive feasibility study will **help evaluate the economic viability and technical feasibility** of the project. This assessment should analyze potential risks, project timelines, operational requirements, and long-term sustainability to determine the viability of salt cavern-based storage facilities.
- Exploring public-private partnerships can help reduce government spending and attract private investment in the development of strategic reserves. Leveraging the commercial **potential of the reserves through partnerships can enhance the project's feasibility** and contribute to economic growth.

[Source: IE](#)

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## The 22nd Law Commission on Section 124A of the IPC

**For Prelims:** [Sedition Law](#), [Section 124A](#), [Law Commission](#), [Unlawful Activities \(Prevention\) Act \(UAPA\)](#), [National Security Act](#)

**For Mains:** 22<sup>nd</sup> Law Commission recommendations, Significance of sedition Law and the Related Issues

### Why in News?

The 22<sup>nd</sup> [Law Commission](#) report recommends retaining Section 124A of the IPC, pertaining to sedition, but proposes amendments and procedural safeguards to prevent misuse.

### What are the Recommendations of the Law Commission?

- **Background:**
  - The Home Ministry requested the Law Commission to examine the usage of Section 124A and propose amendments through a letter in 2016.
  - The Law Commission's report highlights that the existence of laws like the [Unlawful Activities \(Prevention\) Act \(UAPA\)](#) and the [National Security Act](#) (NSA) does not cover all aspects of the offence outlined in Section 124A.
- **Recommendations:**
  - **Retaining Section 124A:**
    - The Commission argues that repealing Section 124A solely based on other countries' actions would ignore the unique realities of India.
    - It emphasizes that the colonial origins of a law do not automatically warrant its repeal.
    - The report suggests that the Indian legal system as a whole carries colonial influences.

- **Amendments and Safeguards:**
  - The Commission recommends adding a procedural safeguard to Section 124A, **requiring a preliminary inquiry by a police officer of Inspector rank** before registering an FIR for sedition.
  - Permission from the Central or State Government would be necessary based on the officer's report.
  - It proposes incorporating a provision similar to Section 196 (3) of the Code of Criminal Procedure, 1973, as a proviso to Section 154 of the same code for procedural safeguards against the use of Section 124A.
  - The Commission suggests amending Section 124A to specify that it penalizes individuals "with a tendency to incite violence or cause public disorder."
- **Enhanced Punishment:**
  - The report proposes an **increase in the jail term for sedition to a maximum of seven years or life imprisonment.**
  - Currently, the offense **carries a term of up to three years or life imprisonment.**

## What are the Justifications for Retaining the Sedition Law?

- The report argues that allegations of misuse do not automatically justify the repeal of Section 124A.
- It highlights instances where various laws have been misused for personal rivalries and vested interests.
- Repealing the sedition law altogether could have serious adverse consequences for the security and integrity of the country, allowing subversive forces to exploit the situation.

## What is Sedition Law?

- **Historical Background:**
  - Sedition laws were enacted in 17th century England when lawmakers believed that only good opinions of the government should survive, as bad opinions were detrimental to the government and monarchy.
  - The law was originally drafted in 1837 by Thomas Macaulay, the British historian-politician, but was inexplicably omitted when the Indian Penal Code (IPC) was enacted in 1860.
  - Section 124A was inserted in 1870 by an amendment introduced by Sir James Stephen when it felt the need for a specific section to deal with the offence.
  - Today the Sedition is a crime under Section 124A of the Indian Penal Code (IPC).
- **Section 124A IPC:**
  - It **defines sedition** as an offence committed when "**any person by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards the government established by law in India**".
  - Disaffection includes disloyalty and all feelings of enmity. However, comments without exciting or attempting to excite hatred, contempt or disaffection, will not constitute an offence under this section.
- **Punishment for the Offence of Sedition:**
  - It is a **non-bailable offence**. Punishment under Section 124A ranges from imprisonment up to three years to a life term, to which a fine may be added.
  - A person charged under this law is barred from a government job.
  - They have to live without their passport and must appear in court at all times as and when required.

## What are the Various Arguments Related to Sedition Law?

- **Arguments in Favour:**
  - **Reasonable Restrictions:**
    - The constitution of India prescribes reasonable restrictions (under Article 19(2)) that can always be imposed on this right (**Freedom of Speech and Expression**) in



order to ensure its responsible exercise and to ensure that it is equally available to all citizens.

- **Maintaining Unity & Integrity:**
  - Sedition law helps the government in **combating anti-national, secessionist and terrorist elements.**
- **Maintaining Stability of State:**
  - It helps in protecting the elected government from attempts to overthrow the government with violence and illegal means.
  - The continued existence of the government established by law is an essential condition of the stability of the State.
- **Arguments Against retaining Sedition Law**
  - **Relic of Colonial Era:**
    - Colonial administrators used sedition to lock up people who criticised the British policies.
    - Stalwarts of the freedom movement such as Lokmanya Tilak, Mahatma Gandhi, Jawaharlal Nehru, Bhagat Singh, etc., were convicted for their “seditious” speeches, writings and activities under British rule.
    - Thus, rampant use of the sedition law recalls the colonial era.
  - **NCRB Report on Sedition Cases:**
    - The latest edition of the NCRB’s Crime in India report showed that 76 sedition cases were registered across the country in 2021, a marginal increase from the 73 registered in 2020.
    - The **conviction rate in cases filed under the sedition law** (IPC Section 124A), now the subject of an ongoing case in the Supreme Court, has fluctuated **between 3% and 33%** over the years, and the **pendency of such cases** in court reached a high of **95% in 2020.**
  - **Stand of Constituent Assembly:**
    - The Constituent Assembly did not agree to include sedition in the Constitution. The members felt it would curtail freedom of speech and expression.
    - They argued that the sedition law can be turned into a weapon to suppress people’s legitimate and constitutionally guaranteed right to protest.
  - **Disregarding Supreme Court’s Judgement:**
    - Supreme Court in **Kedar Nath Singh vs State of Bihar case 1962**, limited application of **sedition to “acts involving intention or tendency to create disorder, or disturbance of law and order, or incitement to violence”.**
    - Thus, invoking sedition charges against academicians, lawyers, socio-political activists and students is in disregard of the Supreme Court’s order.
  - **Repressing Democratic Values:**
    - Increasingly, India is being described as an elected autocracy primarily because of the callous and calculated use of sedition law.

### UPSC Civil Services Examination, Previous Year Question (PYQ)

**Q. With reference to Rowlatt Satyagraha, which of the following statements is/are correct? (2015)**

1. The Rowlatt Act was based on the recommendations of the ‘Sedition Committee’.
2. In Rowlatt Satyagraha, Gandhiji tried to utilize the Home Rule League.
3. Demonstrations against the arrival of Simon Commission coincided with Rowlatt Satyagraha.

**Select the correct answer using the code given below:**

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Ans: (b)**



## Exp:

- The Rowlatt Committee, also known as Sedition Committee was appointed in 1917 by the British Indian Government with Sidney Rowlatt, an English judge, as its president.
- The Anarchical and Revolutionary Crimes Act of 1919 (known as the Rowlatt Act or Black Act) was based on recommendations of Sedition Committee. Hence, statement 1 is correct.
- This act authorized the government to imprison for a maximum period of two years, without trial, any person suspected of terrorism.
- In response to this unjust law, Gandhi called for a countrywide protest against the Rowlatt Act. A Hartal (or strike) was started on the 6th April, 1919.
- He called upon members of the Home Rule League to participate in Hartal. Hence, statement 2 is correct.
- Rowlatt Satyagraha took place in 1919 whereas, Simon Commission came to India in 1927. Hence, statement 3 is not correct.
- Therefore, option (b) is the correct answer

[Source: TH](#)

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## Rethinking India's Anaemia Policy

**For Prelims:** [National Family Health Survey \(NFHS\)](#), [WHO](#), [Anaemia Mukt Bharat](#), [Pradhan Mantri Surakshit Matritva Abhiyan \(PMSMA\)](#)

**For Mains:** Issues Related to Women, Health and Government Policies & Interventions

### Why in News?

India is reconsidering its anaemia policy and shifting the estimation of anaemia prevalence from the [National Family Health Survey \(NFHS\)](#) to the **Diet and Biomarkers Survey (DABS-I)**.

- The decision comes after concerns were raised regarding the accuracy of haemoglobin level estimation in NFHS, considering the growing burden of anaemia in the country.

### What are the Key Points Related to Anaemia?

- **Anaemic Condition:**
  - It is a condition in which the number of red blood cells or their oxygen-carrying capacity is insufficient to meet physiologic needs, which vary by age, sex, altitude, smoking, and pregnancy status.
- **Causes:**
  - Iron deficiency is the most common cause of anaemia, although other conditions, such as folate, vitamin B12 and vitamin A deficiencies, chronic inflammation, parasitic infections, and inherited disorders can all cause anaemia.
    - In its severe form, it is associated with fatigue, weakness, dizziness and drowsiness. Pregnant women and children are particularly vulnerable.
- **Anaemia Burden in India:**
  - [NFHS-5](#) (2019-21) revealed a significant increase in the anaemia burden in India, with **57% of women (15-49 age group)** and **67% of children (6-59 months)** being

anaemic.

▪ **Reasons for the Change:**

- Researchers have cautioned against **over-diagnosis of anaemia in India**, as the [WHO](#) cut-offs for haemoglobin may not be suitable.
  - Because the cut-off point for haemoglobin depends on the age, gender, physiological status, altitude and other factors.
- Differences in blood sampling methods between NFHS and the recommended venous blood sampling were identified, potentially leading to falsely lower values.

▪ **Diet and Biomarkers Survey (DABS-I):**

- **DABS-I is a comprehensive national-level dietary survey** aimed at determining food and nutrient adequacy across different age groups and regions.
- The survey **collects individual dietary intake data** and provides nutrient composition information on cooked and uncooked foods.
- **DABS-I is expected to offer better estimates of anaemia** prevalence and aid in developing targeted interventions.

▪ **Importance of Anaemia Data:**

- Anaemia data serves as a crucial indicator of public health, particularly for vulnerable populations such as pregnant women and children under five.
- Prevalence studies on anaemia help monitor reproductive health progress and understand the impact on work capacity and national development.

## What are Government Initiatives?

- [Anaemia Mukht Bharat \(AMB\)](#) (**AMB**): It was launched in 2018 as part of the **Intensified National Iron Plus Initiative (NIPI) Program** for accelerating the annual rate of decline of **anaemia from one to three percentage points**.
  - The **target groups for AMB are Children 6-59 months, 5-9 years, Adolescent Girls & Boys of 10-19 years, Women of Reproductive Age (15-49 years), Pregnant Women and Lactating Mothers**.
- **Weekly Iron and Folic Acid Supplementation (WIFS):**
  - This Programme is being implemented to meet the challenge of high prevalence and incidence of anaemia amongst adolescent girls and boys.
  - The intervention under WIFS includes supervised weekly ingestion of Iron Folic Acid (IFA) tablet.
- **Operationalization of [Blood Bank](#):**
  - In District Hospitals and Blood Storage Unit in subdistrict facilities such as Sub-Divisional Hospital/ Community Health Centers is being taken to tackle complications due to severe anaemia.
- [Pradhan Mantri Surakshit Matritva Abhiyan \(PMSMA\)](#):
  - It has been launched to focus on conducting special ANC check up on 9th of every month with the help of medical officers/ OBGYN to detect and treat cases of anaemia.
- **Other steps Taken:**
  - To control **worm infestation biannual deworming with Albendazole** is provided.
  - **Health management information system & Mother Child tracking system** is being implemented for reporting and tracking the cases of anaemic and severely anaemic pregnant women.
  - **Universal screening of pregnant women for anaemia** is a part of ante-natal care and all pregnant women are provided iron and folic acid tablets during their ante-natal visits through the existing network of sub-centres and primary health centres and other health facilities as well as through outreach activities at Village Health & Nutrition Days (VHNDs).

# WAYS TO TACKLE ANAEMIA

## CAUSES



- Iron and nutritional deficiency
- Blood loss during menstruation
- Worm infections of the intestine
- Chronic kidney ailments, hypothyroidism and endocrine abnormalities
- Body unable to absorb iron due to medical reasons



## SYMPTOMS

Weakness, fatigue, shortness of breath, giddiness, headache, Increased heart-beat, pale and dry skin and irritation in mood.

## TREATMENT FOR ANAEMIA

Proper balanced diet. Vegetables rich in iron include spinach, carrots, radish, beetroots, tomatoes, potatoes and green leafy vegetables. Fruits like bananas, apples, pomegranate, sapota. Iron supplements only under medical advice. In some cases, blood transfusion.



## HOW TO DIAGNOSE

- Blood tests to detect the blood components
- RBC and WBC count
- Complete Blood Picture (CBP) Test
- Bone marrow exam to find iron storage capacity of body



## UPSC Civil Services Examination, Previous Year Question (PYQ)

### Prelims

Q. Consider the following statements in the context of interventions being undertaken under Anaemia Mukht Bharat: (2023)

- It provides prophylactic calcium supplementation for pre-school children, adolescents and pregnant women.
- It runs a campaign for delayed cord clamping at the time of childbirth.
- It provides for periodic deworming to children and adolescents.
- It addresses non-nutritional causes of anaemia in endemic pockets with special focus on malaria, hemoglobinopathies and fluorosis.

How many of the statements given above are correct?

- Only one
- Only two
- Only three
- All four Interventions of Anaemia Mukht Bharat:

Ans: c

Exp:

- Not Prophylactic calcium supplementation but Prophylactic Iron and Folic Acid Supplementation is provided to children, adolescents and women of reproductive age and pregnant women irrespective of anemia. Hence, statement 1 is not correct.

- Appropriate Infant and Young Child Feeding (IYCF) with emphasis on adequate and age-appropriate complementary foods for children 6 months and above.
- Increase intake of iron-rich, protein-rich and vitamin C-rich foods through dietary diversification/quantity/frequency and food fortification
- Promoting practice of delayed cord clamping (by at least 3 minutes or until cord pulsations cease) in all health facility deliveries followed by early initiation of breastfeeding within 1 hour of birth. Hence, statement 2 is correct.
- Bi-annual mass deworming for children in the age groups between 1-19 years is carried out every year under the National Deworming Day (NDD) programme. Hence, statement 3 is correct.
- The Anemia Mukh Bharat also integrates deworming of women of reproductive age and for pregnant women as part of the NDD strategy.
- Addressing non-nutritional causes of anemia in endemic pockets, with special focus on malaria, haemoglobinopathies and fluorosis.
- Hence, statement 4 is correct

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## **Mains**

**Q:** Public health system has limitations in providing universal health coverage. Do you think that private sector could help in bridging the gap? What other viable alternatives would you suggest? **(2015)**

**Source:** [TH](#)

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## **Mekedatu Project**

**For Prelims:** Mekedatu project, [Cauvery and its tributary Arkavathi](#), Cauvery Water Disputes Tribunal, [National Board for Wildlife \(NBWL\)](#), [Central Water Commission \(CWC\)](#)

**For Mains:** Interstate water disputes, Diplomacy in resolving interstate water disputes, Water governance

## **Why in News?**

The Karnataka Assembly has unanimously adopted a resolution requesting clearance for the [Mekedatu drinking water and balancing reservoir project](#).

- This resolution was in response to Tamil Nadu's opposition to the project.



# MEKEDATU PROJECT

KARNATAKA

- Mokedatu is **Rs 9,000-cr** project proposed at Ontigondlu in Karnataka.
- Project site is at confluence of Cauvery & its tributary Arkavathi.
- Reservoir aimed at ensuring **drinking water** to Bengaluru & adjacent areas.
- Project also envisioned to generate **400 MW** of power.



## What is Mokedatu Project?

### ▪ About:

- The Mokedatu project is a multipurpose project involving the construction of a **balancing reservoir near Kanakapura in Ramanagara district, Karnataka**.
- **Mokedatu**, meaning goat's leap, is a **deep gorge** situated at the confluence of the rivers [Cauvery and its tributary Arkavathi](#).
- Its primary objectives are to **provide drinking water to Bengaluru** and neighboring areas, totaling 4.75 TMC, and **generate 400 MW of power**.

### ▪ Benefits of the Project:

- Meeting the **growing demand for drinking water in Bengaluru** and its adjoining areas facing [water scarcity](#) and dependence on [groundwater](#).
- Harnessing [renewable energy](#) by generating 400 MW of [hydroelectric power](#).
  - Contributing to renewable energy production and reducing [carbon emissions](#).
- Regulating the flow of water to prevent [floods](#) and [droughts](#), benefiting farmers and communities.

### ▪ Current Status:

- Karnataka **has not obtained the consent of Tamil Nadu**, which is mandatory.
- The project is still in its preliminary stage and has not obtained the necessary clearances and approvals from authorities such as the [Central Water Commission \(CWC\)](#), the **Ministry of Environment, Forest and Climate Change (MoEFCC)**, and the [National Board for Wildlife \(NBWL\)](#).

### ▪ Opposition By Tamil Nadu:

- Tamil Nadu argues that the Mokedatu dam would significantly **reduce the water flow downstream**, negatively impacting the **state's agricultural activities and water supply**.
- The Cauvery River is a crucial water source for Tamil Nadu, supporting its **farming communities** and meeting the drinking water needs of its residents.
- The state claims that the project violates the final judgment of the **Cauvery Water Disputes Tribunal (CWDT)**, which allocated a **specific share of water to each riparian state, including Tamil Nadu**.

## What is the Cauvery River Dispute?

### ▪ River Cauvery (Kaveri):

- It is known as '**Ponni**' in Tamil, and it is the **fourth largest river in southern India**.
- It is a **sacred river of southern India**. It **rises on Brahmagiri Hill** of the [Western Ghats](#) in southwestern Karnataka state, flows in a southeasterly direction through the states of **Karnataka and Tamil Nadu**, and descends the [Eastern Ghats](#) in a series of great falls and **drains into Bay of Bengal** through **Pondicherry**.
- **Left Bank Tributary:** Arkavathi, Hemavathi, Shimsa, and Harangi.

- **Right Bank Tributary:** Lakshmantirtha, Suvarnavati, Noyil, Bhavani, Kabini, and Amaravathi.



#### ▪ The Dispute:

##### ◦ Historical Background:

- As the river originates in Karnataka, flows through Tamil Nadu with major tributaries coming from Kerala and drains into the Bay of Bengal through Pondicherry the **dispute therefore involves 3 states and one Union Territory.**
- The genesis of the dispute is **150 years old and dates back to the two agreements of arbitration in 1892 and 1924** between the then Madras presidency and Mysore.
- It **entailed the principle that the upper riparian state must obtain consent of lower riparian state** for any construction activity viz. reservoir on the river Cauvery.
- The Cauvery water dispute between Karnataka and Tamil Nadu began in 1974 when Karnataka started diverting water without Tamil Nadu's consent.
  - After several years, the **Cauvery Water Disputes Tribunal (CWDT)** was established in 1990 to resolve the issue. It took 17 years for the CWDT to reach a final order in 2007, which outlined the sharing of Cauvery water among the four riparian states. In distress years, water would be shared on a **pro-rata basis.**
  - In 2018, the Supreme Court declared the Cauvery a national asset and largely upheld the water-sharing arrangements determined by the CWDT.
    - It also directed the Centre to notify the **Cauvery Management Scheme.** The central government notified the 'Cauvery Water Management Scheme' in June 2018, constituting the '[Cauvery Water Management Authority](#)' and the '[Cauvery Water Regulation Committee](#)'.

#### Way Forward

##### ▪ Joint River Rejuvenation:

- Launch a **collaborative initiative** to restore the entire **Cauvery River, addressing pollution and habitat degradation.**

##### ▪ Eco-friendly Design:



- Redesign the Mokedattu project with eco-friendly features and minimal environmental impact.
  - Explore innovative engineering solutions, to ensure **minimal disruption to the river's natural flow and the surrounding ecosystem.**
- **Cultural Exchange:**
  - Organize **cultural events that celebrate the shared cultural heritage** and traditions of **both Karnataka and Tamil Nadu.** This fosters a **sense of unity and mutual respect,** helping to strengthen the bond between the states and create a conducive atmosphere for resolving dispute.
- **Real-time Monitoring and Data Sharing:**
  - Implement a robust system for real-time monitoring of water levels, rainfall patterns, and river flows. This data should be **shared transparently between the states** to enable informed decision-making and foster trust.

## UPSC Civil Services Examination, Previous Year Question (PYQ)

### Prelims

**Q. Which of the following Protected Areas are located in Cauvery basin? (2020)**

1. Nagarhole National Park
2. Papikonda National Park
3. Sathyamangalam Tiger Reserve
4. Wayanad Wildlife Sanctuary

**Select the correct answer using the code given below:**

- (a)** 1 and 2 only
- (b)** 3 and 4 only
- (c)** 1, 3 and 4 only
- (d)** 1, 2, 3 and 4

**Ans: (c)**

### Mains

**Q.** Constitutional mechanisms to resolve the inter-state water disputes have failed to address and solve the problems. Is the failure due to structural or process inadequacy or both? Discuss. **(2013)**

**Source: TH**

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## Kathakali

### Why in News?

**KK Gopalakrishnan** has recently released a captivating book titled "**Kathakali Dance Theatre: A Visual Narrative of Sacred Indian Mime.**"

- The book offers a **behind-the-scenes look into the world of Kathakali,** focusing on the **green room, artists' struggles, and the unique bonds forged during long make-up hours.**



## What is Kathakali?

### ▪ Origin and History:

- Kathakali emerged in the 17<sup>th</sup> century in the kingdom of [Travancore](#) (present-day Kerala).
  - The art form was initially performed in **temple precincts and later gained popularity in the royal courts.**
- Kathakali is based on **Natya Shastra**, the ancient treatise on dance, written by **Sage Bharata**.
  - However, Kathakali relies on **Hasthalakshana Deepika**, another classical text for its **hand gestures**.
- Kathakali was in peril and on the **verge of extinction in the beginning of 20<sup>th</sup> century**.
  - Renowned **Poet Vallathol Narayana Menon and Manakkulam Mukunda Raja** took the initiative to set up **Kerala Kalamandalam**, a centre of excellence for classical art forms for the revival of kathakali.

### ▪ Dance and Music:

- Kathakali combines elements of **dance, music, mime, and drama**.
- The movements are highly stylized and include **intricate footwork, rhythmic swaying, and various hand gestures called mudras**.
  - The dancers use their facial expressions, known as **rasas**, to **convey emotions and tell stories**.
- **Manipravalam**, a blend of Malayalam and Sanskrit, is the **language used in Kathakali songs**.
  - The text of Kathakali songs is known as **Attakkatha**.
  - **Chenda, Maddalam, Chengila and Elaththalam** are the major instruments used with Kathakali music.

### ▪ Makeup:

- Kathakali make-up is classified into five types according to the nature of the character.
  - **Pacha (green)**: noble and heroic characters, such as gods, kings and sages.
  - **Katti (knife)**: anti-heroes or villains with streaks of nobility or bravery
  - **Thadi (beard)**: different types of beards denote different types of characters, such as:
    - Vella Thadi (white beard): divine or benevolent characters
    - Chuvanna Thadi (red beard): evil or demonic characters
    - Karutha Thadi (black beard): forest dwellers or hunters
  - **Kari (black)**: characters who are evil, cruel or grotesque, such as demons or witches.
  - **Minukku (radiant)**: characters who are gentle, virtuous or refined, such as women, sages or Brahmins.
- The costumes are colourful and extravagant, with heavy jewellery and headdresses.

### ▪ Recent Developments:

- **Inclusion of Women**: Traditionally performed by male actors only, **Kathakali has**

**gradually opened up to female performers** who have trained in this art form and taken up various roles.

- **Innovation in Themes:** Apart from the classical stories from Hindu epics and Puranas, Kathakali has also explored new themes from other sources such as **Shakespearean plays**, social issues, historical events and contemporary topics.

▪ **Relevance of Kathakali in Today's Audience:**

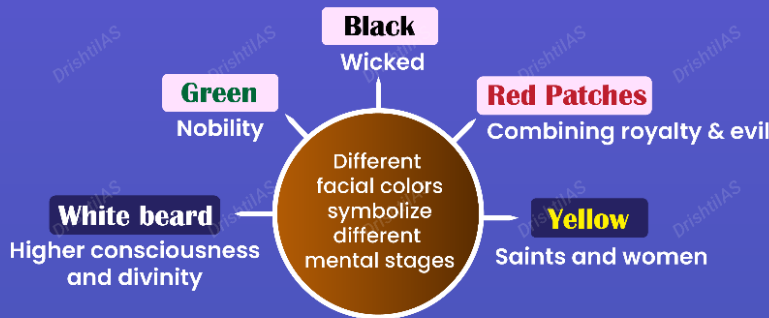
- Kathakali, being a complex art form, requires the **audience to familiarise themselves with its gestural language, make-up codes, and stories to fully appreciate its depth.**
- Furthermore, the introduction of modern technology, such as microphones and improved acoustics, has contributed to the **renaissance of Kathakali music and its popularity.**

# Kathakali (Kerala)

## इन्फार्मेट ऑफ़ क़ाथक़ाली

- **Ramanattam:** Narrating episodes from **Ramayana**.
- **Krishnattam:** Narrating episodes from **Mahabharata**.

- Blend of **dance, music and drama**.
- Traditionally, only **men and young boys** who can play both **male and female roles** conduct **Kathakali**. Women are now taking part as well.
- **Language of Kathakali songs:** Manipravalam (Mixture of Malayalam and Sanskrit).
- It is also called as '**ballad of the east**'.
- Remarkable in the **representation of the rasas through movements of eye and eyebrows**.
- **Navarasas** : Nine important facial expressions.
  - Dancers enact the roles of **kings, gods and demons** etc.
  - Grand representation of the eternal conflict between **good and evil**.
  - It was revived in the 1930s by the famous **Malayali poet V. N. Menon** under the patronage of **Mukunda Raja**.



• **Hand gestures, facial expressions and eye movements are important**

## क़ाथक़ाली क़ाथक़ाली

- Very elaborate facial makes up
- Elaborate masks
- Huge skirts
- Big headdresses

## क़ाथक़ाली प्रमुख क़ाथक़ाली

- Guru Kunchu Kurup
- Gopi Nath
- Kottakal Sivaraman
- Rita Ganguly

## क़ाथक़ाली क़ाथक़ाली

- Chhenda
- Maddala



## UPSC Civil Services Examination, Previous Year Question (PYQ)

**Q. With reference to the famous Sattriya dance, consider the following statements: (2014)**

1. Sattriya is a combination of music, dance and drama.
2. It is a centuries-old living tradition of Vaishnavites of Assam.
3. It is based on classical Ragas and Talas of devotional songs composed by Tulsidas, Kabir and Mirabai.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 1 and 2 only  
(c) 2 and 3 only  
(d) 1, 2 and 3

**Ans: (b)**

**Exp:**

- Sattriya is a classical dance of Assam, which comprises of dance-drama performances based on Ekasarana tradition (i.e., Krishna-centric Vaishnavism cult) which was organized by 15<sup>th</sup> century Bhakti saint Srimanta Sankardeva. **Hence, statement 1 is correct.**
- In 15th century, Sankardeva and his principle disciple Madhavdeva, systematized and directed the dance form using the ancient texts such as Natya Shastra (which embodies the Tandava dance and acting techniques), Bhagavata Purana and introduced drama and expressive dancing (Nritta and Nritya) as a form of a community religious art for emotional devotion to Krishna. Hence, statement 2 is correct.
- Further, the music is primarily based on Borgeets, composed by Srimanta Sankardeva and Madhavdeva in the 15<sup>th</sup>-16<sup>th</sup> centuries, which are a collection of lyrical songs that are set to specific Ragas but not necessarily to any Tala. **Hence, statement 3 is not correct.**
- **Therefore, option (b) is the correct answer.**

[Source: TH](#)

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## Himalayan Brown Bear

### Why in News?

The [Himalayan brown bear](#) (*Ursus arctos isabellinus*) population in **Kashmir** is facing numerous challenges that threaten both their survival and human safety.

- Recent incidents of **bears entering residential areas** and wrecking graveyards have raised concerns among local communities.
- These incidents highlight the urgent need to **address the underlying factors causing this behavior** and safeguard the habitat of this critically endangered species.

## What are Himalayan Brown Bears?

### ▪ About:

- Himalayan brown bears are a **subspecies of brown bears** that inhabit the high-altitude regions of the Himalayas, ranging from Pakistan to Bhutan.
- They have **thick fur that is most often sandy or reddish-brown in color.**
- They can **grow up to 2.2 meters long** and weigh up to 250 kilograms.



### ▪ Status:

- [IUCN Red List](#)- **Critically Endangered**
  - Brown bear (***Ursus arctos***) is listed as **Least Concern**.
- [CITES](#) - **Appendix I**.
  - Only the populations of Bhutan, China, Mexico and Mongolia; all other populations are included in Appendix II.
- [Indian Wildlife \(Protection\) Act of 1972](#) - **Schedule 1**.

### ▪ Food:

- **Omnivorous.**

### ▪ Behavior:

- They are **nocturnal**, and their sense of smell is acutely developed and believed to be their principal means of finding food.

### ▪ Threat:

- Human-animal conflict, rapid habitat loss, poaching for fur, claws, and organs, and, in some rare cases, bear baiting.

### ▪ Range:

- North-western and central Himalaya, including India, Pakistan, Nepal, the Tibetan Autonomous Region of China, and Bhutan.

### ▪ Challenges:

- **Insufficient Food Sources and Altered Behavior:**
  - The bears' peculiar behavior of digging up graves and wandering into residential areas can be attributed to insufficient food in their natural habitats.
  - A study conducted by **Wildlife SOS**, an organization established with the goal of making lasting changes to protect and conserve India's natural heritage, forests, and biodiversity, revealed that a significant portion of the bears' diet in Kashmir consists of **scavenged garbage, including plastic bags, chocolate wrappers, and other edible waste.**
    - This disrupts their **natural foraging patterns and alters their behavior,**



### leading to conflicts with humans.

- Improper disposal of kitchen waste by both local residents and hoteliers near bear habitats has provided easy access to food, leading to frequent interactions between bears and humans.
  - This altered behavior, **coupled with complacency in hunting for food**, has created a dependence on human-generated waste, further exacerbating conflicts.
- **Restricted Distribution and Declining Population:**
  - The restricted distribution of the Himalayan brown bear in the alpine meadows of the Himalayas has made it challenging for researchers to gather comprehensive data on the species.
  - Habitat destruction caused by factors like **habitat encroachment, tourism, and grazing pressure** has contributed to the declining population of bears.
    - With only an estimated **500-750 bears left in India**, urgent conservation efforts are required to ensure their survival.
- **Future Threats and Conservation Recommendations:**
  - The Himalayan brown bear's future remains bleak, as a study predicts a **decline of about 73% of their habitat by 2050** in the **western Himalayas**.
  - **Climate change** poses a significant risk, necessitating preemptive spatial planning of **protected areas to ensure the long-term viability of the species**.
  - Conservation efforts should focus on **habitat preservation, creating biological corridors, and promoting responsible waste management** to minimize human-bear conflicts.
  - Should Strengthen the legal protection and enforcement by implementing the **Wildlife (Protection) Act of 2022** and **CITES regulations**.

## UPSC Civil Services Examination, Previous Year Question (PYQ)

### Q. Consider the following fauna: (2023)

1. Lion-tailed Macaque
2. Malabar Civet
3. Sambar Deer

### How many of the above are generally nocturnal or most active after sunset?

- (a) Only one  
(b) Only two  
(c) All three  
(d) None

### Ans: (b)

- The lion-tailed macaque is not a nocturnal animal. It is an arboreal and diurnal creature, they sleep at night in trees ( typically, high in the canopy of rainforest). These macaques are territorial and very communicative animals. **Hence, 1 is not correct.**
- Malabar civet is primarily nocturnal. It is a small, carnivorous mammal that is native to the Western Ghats region of India.
- It has a solitary and secretive nature, making it challenging to observe in the wild. Its nocturnal behavior helps it avoid predators and increases its chances of finding prey in the darkness. **Hence, 2 is correct.**
- Sambar deer are nocturnal. They more commonly communicate by scent marking and foot stamping. They prefer the dense cover of deciduous shrubs and grass. **Hence, 3 is correct.**
- **Hence, option (b) is correct.**

## Bima Vahak: IRDAI

### Why in News?

Recently, [IRDAI \(Insurance Regulatory and Development Authority of India\)](#) has issued a draft Guidelines for Bima Vahak, which is a dedicated distribution channel to reach out to rural areas with the aim to improve insurance penetration in the Hinterland.

### What is Bima Vahak?

- **About:**
  - Bima Vahak Program is one of the components of [IRDAI's "Insurance for all by 2047" goal](#), which aims to improve the accessibility and availability of insurance products throughout India.
  - It will serve as a **crucial last-mile connection for insurers by establishing a field force of both corporate and individual** representatives. These representatives, known as Bima Vahaks, are responsible for the **distribution and servicing of insurance products**.
  - The Bima Vahak scheme is closely aligned with the Lead Insurers concept introduced by IRDAI.
    - Lead Insurers coordinate the deployment of resources to ensure maximum coverage of Gram Panchayats, which are Local Self-Governance units in India.
- **Objectives:**
  - It focuses on onboarding **women as Bima Vahaks**, as they can gain the trust of locals and facilitate insurance penetration in various communities.
  - By engaging with the local population, Bima Vahaks aim to enhance accessibility and awareness of insurance in every nook and corner of the country.
- **Significance:**
  - The Bima Vahak initiative is expected to significantly contribute to enhancing insurance inclusion, raising awareness, and adapting **insurance offerings to meet the diverse needs and aspirations of people** in every Gram Panchayat across India.

### What is IRDAI?

- IRDAI, founded in 1999, is **a regulatory body created with the aim of protecting** the interests of insurance customers.
  - It is a statutory body under the IRDA Act 1999 and is under the jurisdiction of the Ministry of Finance.
- It regulates and sees to the development of the insurance industry while monitoring insurance-related activities.
- The powers and functions of the Authority are laid down in the **IRDAI Act, 1999 and Insurance Act, 1938**.

## Why in News?

A Pune-based surgeon has developed the **Distal Laser Proximal Ligation (DSPL)** procedure to treat complex fistulas.

## What are Fistulas?

- **About:**
  - A fistula is an **abnormal connection between two body parts**, such as **an organ or blood vessel and another structure**. Fistulas are usually the **result of an injury or surgery**. Infection or inflammation can also cause fistula to form.
  - Fistulas **may occur in many parts of the body**. They **can form between:** An **artery and vein**, Bile ducts and the surface of the skin (from gallbladder surgery), the **cervix and vagina**, the **colon and surface of the body**, causing faeces to exit through an opening other than the anus, etc.
- **Prevalence:**
  - Two million women in low-resource settings have an obstetric fistula, and 100,000 more develop one every year. Obstetric fistula is a **devastating childbirth injury** and a neglected public health and human rights issue.
    - Only 1 in 50 women with obstetric fistula ever receives treatment.
  - Fistula-in-ano is one of the most commonly encountered surgical problems with the prevalence of an average of 2/10,000.
- **Treatment:**
  - While some **fistulas can be treated with antibiotics** and other medication, **fistula removal surgery may be necessary** if the infection doesn't respond to medication or if the fistula is severe enough to require emergency surgery.

## What is Distal Laser Proximal Ligation?

- The DSPL surgery is a minimally invasive, sphincter-saving surgery for complex fistulas.
  - **Sphincter** is a ring-shaped muscle that **relaxes or tightens to open or close a passage** in the body. **Examples Pyloric Sphincter** (at the lower opening of the stomach)
- The **surgery is based on two principles - debridement and efficient drainage from the fistula** in the first two to three weeks.
- **DLPL is performed under** the guidance of a **3D EndoAnal Imagine machine** which **can identify hidden fistula tracts** and micro abscess in real time during surgery.
- **DLPL is associated with a negligible recurrence rate** and the patient can resume work in about five days.
- According to the Indian Journal of Colo-Rectal surgery, minimally invasive, sphincter-saving DLPL surgery is a safe and effective treatment for complex fistula-in-ano.

## What are Global Initiatives to Treat Fistulas?

- **International Day to End Obstetric Fistula is observed on 23 May every year.**
  - The day aims to ensure access to emergency obstetric care and skilled health professionals, especially midwives, to all women to prevent and help ensure treatment for obstetric fistula.
  - The theme of 2023 is "End Fistula Now."
- **United Nations Population Fund (UNFPA)** leads the **Campaign to End Fistula**, which works in more than 55 countries on prevention, treatment, and rehabilitation efforts.
- The United Nations Member States are invited to consult the resolution to end fistula by 2030.

[Source: IE](#)

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# Rapid Fire Current Affairs

## Transforming Healthcare and Celebrating Excellence

During the Silver Jubilee event of Amrita Hospital in Kochi, Kerala, the **Union Home minister** inaugurated two state-of-the-art **research centers at the Amritapuri and Kochi campuses of Amrita Vishwa Vidyapeetham**, aimed at advancing **medical science and technology**. The event highlighted the remarkable progress made in medical education infrastructure and the significant impact of the [Ayushman Bharat Scheme](#), which provides **free treatment to over 60 crore poor individuals**. Notably, the number of **medical colleges has seen a substantial increase from 387 to 648**, and the establishment of 22 new **All India Institute of Medical Sciences(AIIMS) institutions** has further expanded access to quality healthcare across the country. The Minister applauded Amrita Hospital for its exceptional achievements in medical excellence and research, including pioneering milestones such as **India's first micro-blood stem cell transplant, the largest number of high-precision robotic liver transplants, and the country's first 3D printing lab**.

**Read more:** [Ayushman Bharat Scheme](#), [India's Health Infrastructure](#)

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## Punjab-Himachal Pradesh Clash Over Shanan Hydropower Project

The lease on the **110 MW Shanan hydropower project located on Uhl river (Tributary of Beas)**, a British-era installation located in **Jogindernagar, Mandi district of Himachal Pradesh**, is set to **expire in March 2024**, sparking a **potential conflict between Punjab and Himachal Pradesh**. The Himachal Pradesh Government has made it clear **that it will not renew or extend the lease**, demanding that the project be handed over to the state upon expiration. However, **Punjab intends to retain control of the project** and is prepared to resort to legal measures. Himachal Pradesh Chief Minister has sought the Centre's intervention, emphasizing the lease's end date and the state's intention to take over the project. Punjab asserts its continuous ownership and possession but is open to legal recourse if necessary. The impending face-off raises concerns over the future of the Shanan power project, highlighting the ongoing tensions between the two states.

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## Chhatrapati Shivaji Maharaj's Enduring Legacy

Commemorating the **350<sup>th</sup> year of Chhatrapati Shivaji Maharaj's Coronation Day**, the **Indian Prime Minister** highlighted the significance of this historic event in the context of India's present era. He emphasised that **Shivaji Maharaj's coronation symbolises a chapter of immense importance**, characterised by **self-governance, good governance, and prosperity**, which continue to inspire the nation.

Shivaji Maharaj's coronation also embodied the spirit of [Swarajya \(self-rule\)](#) and **nationalism**, with a strong focus on upholding the unity and integrity of India. To honour this legacy, the Indian Navy replaced the flag representing British rule with the **emblem of Shivaji Maharaj**, symbolising India's maritime pride.

He was born on **19<sup>th</sup> February, 1630 at Shivneri Fort in District Pune** in the present-day state of Maharashtra. Shivaji **abolished the Jagirdari System** and replaced it with Ryotwari System. He took on the titles of **Chhatrapati, Shakakarta, Kshatriya Kulavantas and Haindava Dharmodhhaarak**. He was a unique leader in history who **demonstrated both military prowess and exceptional governance skills**. He conquered forts and defeated enemies at a young age, showcasing his military leadership, while simultaneously implementing reforms in **public administration to establish good governance**.

**Read more:** [Chhatrapati Shivaji Maharaj](#)

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## Government of India Imposes Stock Limits on Tur and Urad Dal

In a move aimed at **curbing hoarding, preventing unscrupulous speculation, and enhancing affordability for consumers**, the Government of India has implemented an order imposing **stock limit**

on [tur dal and urad dal](#).

The **Removal of Licensing Requirements, Stock Limits and Movement Restrictions on Specified Foodstuffs (Amendment) Order, 2023**, which came into effect on June 2, 2023, applies to **wholesalers, retailers, big chain retailers, millers, and importers**. This order establishes **stock limits until October 31, 2023**, for all States and Union Territories.

The prescribed stock limits under this order are as follows: **wholesalers can hold up to 200 metric tons (MT) of each pulse individually, retailers are limited to 5 MT**, big chain retailers can have 5 MT at each retail outlet and **200 MT at the depot**, millers are allowed to **hold the last three months of production or 25% of their annual installed capacity** (whichever is higher), and importers are prohibited from holding imported stock beyond 30 days from the date of Customs clearance. To ensure compliance, legal entities are required to **declare their stock positions on the Department of Consumer Affairs' portal within 30 days of the notification**.

**Read more:** [Agricultural Marketing Reforms](#)

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