



## Myths Regarding Microbiome Research

**For Prelims:** Myths Regarding Microbiome Research, Microorganisms, Firmicutes and Bacteroidetes, Phylum.

**For Mains:** Myths Regarding Microbiome Research, Microbiome's Link with bodily functions, Science and Technology- Developments and their Applications and Effects in Everyday Life. Awareness in the fields of Nano-technology, Bio-technology.

[Source: TH](#)

### Why in News?

In the last two decades, Microbiome Research has gone from a **'Niche subject area' to 'one of the hottest topics** in all of science'.

- Microbial interactions and activities within the human gut have been a subject of extensive research and discussion.
- Contrary to popular misconceptions, recent assessments shed light on the complexity of the human microbiome, challenging certain widely believed claims.

### Note

- Under the Union Budget 2021-22, the government outlaid Rs. 1,660 crore for biotechnology research and development.

### What is Microbiome?

- **About:**
  - The **microbiome is the community of [Microorganisms](#)** (such as fungi, bacteria and viruses) that exists in a **particular environment**.
  - In **humans**, the term is often used to describe the microorganisms that live in or on a particular part of the body, such as the skin or gastrointestinal tract.
  - These groups of microorganisms are **dynamic and change in response to a host of environmental factors**, such as exercise, diet, medication and other exposures.
- **Myths Regarding Microbiome in Human Body:**
  - **The Age of the Field:**
    - One of the misconceptions is that Microbiome Research is a new field. Scientists had described and **speculated on the benefits of bacteria inhabiting the gut**, such as *Escherichia coli* and *Bifidobacteria*, as early as the **late 19<sup>th</sup> and early 20<sup>th</sup> centuries itself**.
  - **The Question of Origin:**
    - The term "microbiome" in its modern form was used before its popularization in

- 2001, challenging the common attribution to Joshua Lederberg.
  - Joshua Lederberg is a **Nobel laureate in medicine**, with the naming of the field in 2001.
  - The term had been used in 1988 to describe a community of microbes.
- **The Number and Mass of Microbes:**
  - Some of the more prevalent and more harmful myths **concern the size of the microbiome**.
    - The actual number of microbial cells in human feces is around  $10^{10}$  to  $10^{12}$  per gram, and the **weight of the human microbiota is about 200 grams**, not 1-2 kg as often stated.
- **From Mother to Child:**
  - Contrary to some opinions, mothers don't pass their microbiomes to their children at birth.
  - Some **microorganisms are directly transferred during birth** but they constitute a small fraction of the human microbiota; and only an even smaller fraction of these microbes survive and persist throughout the child's life.
  - Every adult ends up with a unique microbiota configuration, even identical twins that are raised in the same household.
- **Microbes are Dangerous:**
  - Some researchers have suggested that diseases are caused by undesirable interactions **between microbial communities and our cells**.
  - But whether a microbe and its metabolite are 'good' or 'bad' depends on the context.
    - For example, **most humans carry a species of bacteria called *Clostridium difficile*** without any disease for life. It causes **problems only in the elderly or in people with compromised immune systems**.
- **The Firmicutes-Bacteroidetes Ratio:**
  - One myth correlates obesity with the **ratio of two phyla of bacteria** — Firmicutes and Bacteroidetes.
  - The problem with this myth is that the level of phyla is too broad to comment on effects with confidence.
    - A phylum is a group within a kingdom. In the descending order of classifying organisms, **a kingdom comprises different phyla; a phylum comprises classes; then there are orders, families, genera, and, finally, species**.
    - Even within a bacterial species, several strains behave differently, causing the host to manifest different clinical symptoms.
- **Functionality and Redundancy of Microbes:**
  - Not all microbes are functionally redundant; many functions are **specific to certain species within the microbiome**.
  - Some researchers have claimed that different microbes are actually functionally redundant.
  - However, the different bacteria in the human microbiome perform some common important functions, many functions are the preserve of a few species.
- **Bias in Sequencing:**
  - Sequencing in microbiome research is not entirely unbiased; **biases can be introduced at various stages**, affecting the results and conclusions.
- **Standardized Methods in Microbiome Research:**
  - While standardized methods are important for comparing findings across studies, no methodology is perfect, and it is crucial to acknowledge the limitations of the chosen method.
- **Culturing the Microbiome:**
  - While it's challenging to grow microbes from the human microbiome in the lab, there have been successful efforts in the past, indicating that current gaps in culture collections are due to a lack of previous effort rather than inherent 'unculturability'.

## How the Human Microbiome is Linked with Bodily Functions?

▪ **Digestive Health and Nutrient Absorption:**

- The gut microbiome, primarily in the intestines, aids in breaking down complex carbohydrates, fibers, and other indigestible compounds that the human body can't process on its own.
- Microbes assist in the fermentation process, producing essential nutrients such as vitamins (e.g., Vitamin B and K) that the body can absorb and utilize.

▪ **Immune System Regulation:**

- The microbiome interacts closely with the immune system, influencing its development, training, and responses.
- A well-balanced microbiome helps regulate immune responses, preventing inappropriate reactions and enhancing the ability to fight off infections.

▪ **Metabolic Health and Weight Regulation:**

- The composition of the gut microbiome has been linked to metabolic disorders like obesity and type 2 diabetes.
- Certain microbes may affect metabolism, energy extraction from food, and storage of fats, ultimately impacting body weight and metabolic health.

▪ **Mental Health and Brain Function:**

- The **gut-brain axis represents the bidirectional communication between the gut and the brain** through neural, hormonal, and immunological pathways.
- The gut microbiome can influence brain function, behavior, and mental health conditions such as anxiety, depression, and stress by producing neurotransmitters and interacting with the central nervous system.

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

### Mains

**Q.** What are the research and developmental achievements in applied biotechnology? How will these achievements help to uplift the poorer sections of the society? **(2021)**

**Q.** How can biotechnology help to improve the living standards of farmers? **(2019)**

## Hate Speech

**For Prelims:** [Freedom of Speech](#), [Representation of People's Act, 1951 \(RPA\)](#), [Hate Speech](#)

**For Mains:** Parliament and State Legislatures Structure, Functioning, Conduct of Business, Powers & Privileges and Issues Arising out of these.

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

## Why in News?

A recent analysis by the [Association for Democratic Reforms \(ADR\)](#) and **National Election Watch (NEW)** reveals that a concerning number of lawmakers in India have [hate speech](#) cases against them.

- A total of 107 [Members of Parliament \(MPs\)](#) and [Members of Legislative Assembly \(MLAs\)](#) have hate speech cases registered against them.
- Such findings highlight the need for **ethical conduct** among those in positions of power.

## Note

- NEW is a nationwide campaign since 2002 comprising more than 1200 [Non-governmental Organizations \(NGOs\)](#) and other citizen-led organizations working together on electoral reforms, improving democracy and governance in India.
- ADR is an Indian NGO established in 1999 situated in New Delhi.

## What is Hate Speech?

- **About:**
  - In the **267th Report** of the [Law Commission of India](#), hate speech is stated as an incitement to hatred primarily against a group of persons defined in terms of race, ethnicity, gender, sexual orientation, religious belief and the like.
    - The **context of speech is crucial** in determining whether it constitutes hate speech or not.
  - It can cause harm to the targeted individuals and groups, as well as to the society at large, by inciting hatred, violence, discrimination, and intolerance.
- **Legal Position of Hate Speech in India:**
  - **Freedom of Speech and Hate Speech:**
    - Article 19(1)(a) of the Indian Constitution guarantees [freedom of speech and expression](#) as a [fundamental right](#) for all citizens.
    - Article 19(2) imposes **reasonable restrictions on this right**, balancing its use and misuse.
      - Restrictions are allowed in the interests of sovereignty, integrity, security, friendly relations with foreign states, public order, dignity, morality, contempt of court, defamation, or instigation of an offence.
  - **Indian Penal Code:**
    - **Sections 153A and 153B of the IPC:**
      - Punish acts that cause enmity and hatred between groups.
    - **Section 295A of the IPC:**
      - Deals with punishing acts which deliberately or with malicious intention outrage the religious feelings of a class of persons.
    - **Sections 505(1) and 505(2):**
      - Make the **publication and circulation of content** that may cause ill will or hatred between different groups an offence.
  - **Representation of People's Act (RPA), 1951:**
    - **Section 8 of the RPA, 1951:**
      - Prevents a person convicted of the illegal use of the freedom of speech from contesting an election.
    - **Sections 123(3A) and 125 of the RPA:**
      - Bars the promotion of feelings of enmity or hatred between different classes of citizens of India on the grounds of race, religion, community, caste, or language in reference to elections and include it under corrupt electoral practices.
  - **Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989:**
    - Prevents **hate speech targeting** [Scheduled Caste](#) or a [Scheduled Tribe](#) in any place within public view.
  - **Protection of Civil Rights Act, 1955:**
    - Penalises incitement to, and encouragement of untouchability through words, either spoken or written, or by signs or by visible representations or otherwise.

## What are Judicial Cases Related to Hate Speech?

- **Shaheen Abdulla v. Union of India and Ors, 2022:**
  - The [Supreme Court \(SC\) of India](#) observed that there cannot be [fraternity](#) unless different religious communities are amenable to live in harmony.
  - The SC has expressed concern over the growing incidents of hate speeches in the country and has directed the governments and police authorities to take [suo motu action](#) in such cases without waiting for the lodging of formal complaints.
- **Pravasi Bhalai Sangathan v. Union of India, 2014:**
  - The SC did not penalize hate speech as it does **not exist in any of the pre-existing legislation in India**. Instead, the Supreme Court requested the Law Commission to address this issue in order to avoid its stepping into the forum of judicial overreach.
- **Shreya Singhal v. Union of India, 2015:**
  - Issues were raised about [Section 66A of the Information Technology Act, 2000](#) relating to the fundamental right of free speech and expression guaranteed by **Article 19(1) (a) of the Constitution**, where the Court differentiated between discussion, advocacy, and incitement and held that the first two were the essence of Article 19(1).

## How can the Issues of Hate Speech be Effectively Addressed?

- Promote education and awareness about the **consequences of hate speech**, emphasizing its harmful effects on individuals and society.
- Strengthen existing laws or enact new ones specifically targeting hate speech, complemented by other measures, such as **media literacy, dialogue, counter-speech, self-regulation, and civil society engagement**.
  - These measures can help prevent hate speech from spreading, challenge its narratives, promote alternative voices, and foster a culture of tolerance and respect.
- Establish and **enforce codes of conduct for legislators**, holding lawmakers and political parties **accountable for hate speech**, and promoting **media ethics** to discourage its dissemination.

## Conclusion

There is an urgent need for **ethical conduct among those in positions of power**. Hate speech has far-reaching consequences, posing a threat to societal harmony and individual well-being. To effectively address this issue, promoting education, strengthening legislation, and enforcing codes of conduct are crucial steps in fostering a culture of tolerance, respect, and **responsible governance** in the country.

## Legal Insights

[Check on Hate Speech Required](#)

## Concerns of Caste-Based Discrimination

**For Prelims:** [Fair Price Shops \(FPS\)](#), [Suicide](#), [Scheduled Castes \(SCs\)](#), [Scheduled Tribes \(STs\)](#), [Other Backward Classes \(OBCs\)](#), [National Food Security Act 2013](#), [Ethics](#), [Values](#), [Morals](#).

**For Mains:** Impact of various caste-based discriminatory practices prevalent in the society on Ethics in Governance and Administration.

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



## Why in News?

The recent directive by the Patan District Collector, mandating the transfer of all ration cards from a Dalit-run [Fair Price Shop \(FPS\)](#) in Kanosan village to a neighboring village, raises important ethical and constitutional questions.

## What is a Fair Price Shop (FPS)?

- FPS is a government-run or government-regulated retail outlet or store in India.
  - The primary purpose of fair price shops is to **distribute essential commodities like food grains, edible oils, sugar**, and other basic necessities to the public at subsidized or fair prices.
  - These shops are typically part of **government welfare programs** aimed at ensuring food security and reducing the economic burden on low-income households.
    - This system has a robust mechanism for verification of beneficiaries through [Aadhaar authentication](#) and has features to monitor transactions online with the help of electronic Point of Sale (e-POS) machines.
    - The **e-PoS devices have been integrated with electronic weighing machines** to ensure the beneficiaries get the correct amount of ration.
    - These FPSs and ePOS machines have proved instrumental in the effectuation and seamless implementation of the One Nation [One Ration Card Scheme \(ONORC\)](#).

## What are the Different Ethical Aspects Involved in the Incident?

- **Ethical Issues:**
  - **Discrimination and Social Equity**
    - The core ethical issue in this case is [discrimination](#) based on caste leading to the transfer of ration cards.
  - **Dereliction of Duty:**
    - The district collector's directive to transfer ration cards can be seen as a **dereliction of duty**.
    - The ethical principle of integrity, where public officials are expected to act in the best interest of all citizens without favoritism should be practiced.
  - **Mental Health and Well-being**
    - The mental trauma experienced by, the victim of caste-based discrimination, leading to a suicide attempt and physical injury, is a significant ethical concern.
    - Ethical principles of [compassion](#), [empathy](#), and **the duty to protect individuals' well-being become important**.
  - **Use of Legal Framework**
    - The convenors of the [Right to Food Campaign](#) call for the application of legal frameworks like the SC/ST Act and National Food Security Act.
    - Ethical principle of upholding the [rule of law](#) and respecting the constitution should be abided by.
  - **Empowerment of Marginalized Communities**
    - The violation of the mandated principles related to the empowerment of [marginalized communities](#) is a key ethical concern.
    - Ethical principles of fairness, equity, and non-discrimination, justice and equality should be adhered to.
  - **Moral Responsibility**
    - The [moral responsibility](#) of the district collector and the upper caste households in addressing the consequences of their actions is raised.

## What are the Other Perspectives of the Incident?

- **Violation of Constitutional Mandates:**
  - The Indian Constitution enshrines fundamental values of **equality, justice, and non-discrimination as enshrined under [Fundamental Rights \(FRs\) in Part-III \(Article 17\)](#)** of the Constitution.

- **Discriminatory actions** such as actions based on caste contradict these constitutional principles
- **Violation of Statutory Mandates:**
  - **Non-implementation of Scheduled Caste and Scheduled Tribe (Prevention of Atrocities) Act, 1989 (Amended 2015):**
    - The discriminatory treatment of a Scheduled Caste person falls under the purview of [SC/ST Act, 1989](#) which aims to prevent and punish atrocities against marginalized communities.
    - It emphasizes the **need for strict action against caste-based discrimination and violence.**
  - **National Food Security Act:**
    - The act upholds the democratic empowerment of FPSs in villages, advocating for distribution control to marginalized communities.
    - The transfer of ration shops to another FPS violates the spirit of this legislation.

## What Action Could be Taken in the Similar Situations?

- **Preventive Steps:**
  - **Raising Awareness:**
    - Model of [Mid-Day Meals Scheme](#) implementation can be adopted where high dignitaries eat the cooked food to bust the myths of caste-stigma and discrimination.
- **Punitive Action:**
  - Further legal action must be taken to address the **caste-based discrimination and social boycott effectively.**
    - Linking such erroneous activities with **Annual Confidential Reports** of Bureaucrats such that it acts as a deterrence in the future.
  - **License Revocation:**
    - The impending **revocation of the Dalit FPS dealer's license** raises concerns about economic repercussions and livelihoods.
- **Call for Suo Motu Cognizance:**
  - The Right to Food Campaign urges the **High Courts or Chief Minister's Office** of the government to take [Suo Motu cognizance](#) of the discriminatory ration card transfers.
  - Such action is essential to uphold the rule of law and constitutional values.
- **Democratic Empowerment and Inclusivity:**
  - **Role of Fair Price Shops (FPSs):**
    - FPSs play a crucial role in **ensuring food security and access to essential commodities** for marginalized communities.
    - Democratic empowerment of FPSs is vital to promote inclusivity and economic well-being.

## Conclusion

- Caste-based discrimination and social boycott have inflicted severe harm on shop owners, emphasizing the urgent need for **justice and accountability. Upholding the values of social equity, justice, and inclusivity is not just a legal obligation but a moral imperative for a democratic and diverse society.**
- This incident serves as a stark reminder of the ongoing challenges in **eradicating caste-based discrimination and upholding constitutional values in India.**

## UPSC CSE PREVIOUS YEAR QUESTIONS (PYQs)

**Q 1.** The crisis of ethical values in modern times is traced to a narrow perception of the good life. Discuss (2017)

**Q 2.** Explain the process of resolving ethical dilemmas in Public Administration. (2018)

## Glacial Lake Outburst Flood in Sikkim

**For Prelims:** [Glacial Lake Outburst Flood](#), [Teesta River](#), [Indian Himalayan Region](#), [Climate change](#), [National Disaster Management Authority](#), [Avalanche](#)

**For Mains:** Factors Responsible for GOF and Measures to Mitigate the Risk, Important Geophysical Phenomena.

**Source:** IE

### Why in News?

Sikkim recently experienced a [Glacial Lake Outburst Flood \(GLOF\)](#). The **South Lhonak Lake**, a **glacial lake** located at an altitude of 17,000 feet in the state's northwest, experienced a **rupture as a result of continuous rainfall**.

- Consequently, water was discharged into the downstream regions, causing flooding in the [Teesta River](#) and impacting four districts of Sikkim: Mangan, Gangtok, Pakyong, and Namchi, as reported by the Sikkim State Disaster Management Authority (SSDMA).
- This flooding also caused the **Chungthang Hydro-Dam in Sikkim (on Teesta river) to breach**, worsening the overall situation.

### // **Waiting to Happen! What was the Trigger?**

The infographic is divided into several sections:

- Map:** Shows the location of South Lhonak Lake in Sikkim, India, near the border with China and Nepal. It marks the Chungthang Dam, the Teesta River, and an area enlarged in West Bengal, India.
- Glacier Retreat:** States that the South Lhonak glacier continued to retreat amid global warming by another 400 m between 2008 and 2019, and that lakes only grew.
- Glacial Lake Outburst Flood (Glof):** Describes it as a disaster that was waiting to happen.
- Trigger:** Could be anything from a cloudburst to a landslide, avalanche, or earthquake.
- Mitigation Steps:**
  - First field expedition of glacial lake conducted in August 2014, followed by another in 2016 which resulted in a project to start siphoning off lake water.
  - Three pipelines were installed to siphon off 150 litres of water per second at that time.
  - Early warning system was set in place in some locations by Centre for Development of Advanced Computing.
  - Central Water Commission initiated an advisory to evaluate the South Lhonak glacier.
- Himalayan Problem:**
  - Problem of receding glaciers and the spectre of GLOF devastation faces the entire Himalayan region as global warming provides new triggers in the young mountain ranges.
  - Add to that the build-up of infrastructure, habitation, road networks and hydropower plants.
  - A 2021 study warned that 'both the existing and planned hydropower plants are exposed to potential outburst floods from glacial lakes'.

### What is Glacial Lake Outburst Flood?

- About:**
  - A **GLOF (Glacial Lake Outburst Flood)** is a sudden and potentially catastrophic flood that occurs when water stored behind a glacier or a moraine (a natural accumulation of ice, sand, pebbles, and debris) is released rapidly.
    - These floods happen when glacial lakes formed by melting ice accumulate water behind weak moraine dams.



- Unlike sturdy earthen dams, these moraine dams can fail abruptly, releasing large volumes of water in minutes to days, leading to devastating downstream flooding.
- The **Himalayan terrain**, with its **steep mountains**, is particularly vulnerable to GLOFs.
  - **Climate change**, accompanied by **rising global temperatures**, has expedited the process of glacier melting in the **Sikkim Himalayas**.
    - The region now boasts more than 300 glacial lakes, with ten identified as susceptible to outburst floods.
- GLOF can be triggered by several reasons, including **earthquakes, extremely heavy rains and ice avalanches**.
- **Impact:**
  - GLOFs can result in catastrophic **downstream flooding**. They have the potential to release millions of cubic meters of water in a short period of time.
    - Peak flows during GLOFs have been recorded as high as **15,000 cubic meters per second (as per National Disaster Management Authority)**.

## How Susceptible is South Lhonak Lake to GLOFs?

- The **South Lhonak lake** in northern Sikkim is situated about 5,200 meters above sea level.
  - Scientists have previously warned that the **lake had been expanding over years**, possibly from the melting of the ice at its head.
  - Notably, seismic activities, including a **2011 magnitude 6.9 earthquake**, escalated the GLOF risk in the area.
- In 2016, the **Sikkim State Disaster Management Authority** and other stakeholders launched a critical plan to drain excess water from South Lhonak Lake.
  - Visionary innovator **Sonam Wangchuk** led the effort, employing **High Density Polyethylene (HDPE) pipes** to siphon off water from the lake.
  - This initiative successfully reduced the lake's water volume by approximately 50%, mitigating the risk to some extent.
- However, the recent tragedy is believed to be caused by an **avalanche originating from the ice-capped feature surrounding the lake**.

## What are the Other Recent GLOF Incidents in India?

- In **June 2013**, Uttarakhand had received an **unusual amount of rainfall leading to the melting of the Chorabari glacier** and the eruption of the **Mandakini river**.
- In **August 2014**, a glacial lake outburst flood hit the village of Gya in Ladakh
- In February 2021, Chamoli district in Uttarakhand witnessed flash floods which are suspected to have been caused by GLOFs.

## What Actions be Taken to Reduce the Risk of GLOFs?

- **Glacial Lake Monitoring:** Establishing a comprehensive monitoring system to track the growth and stability of glacial lakes in vulnerable regions.
  - **Satellite imagery**, remote sensing technology, and **field surveys through drones** can be used to **regularly assess changes in glacial lakes and their associated moraine dams**.
- **Early Warning Systems:** and early warning systems that can provide timely alerts to downstream communities in the **event of a GLOF**.
  - Also, there is a need to complement it with **flood protection measures**, such as **constructing protective barriers, levees, or diversion channels** to redirect floodwaters away from populated areas.
- **Public Awareness and Education:** There is a need to **raise public awareness about the risks of GLOFs and educate communities** living downstream about evacuation procedures and safety measures, as per NDMA's guidelines related to GLOF.
  - Conduct drills and training programs to ensure that residents know how to respond in case of a GLOF.

- **International Cooperation: India can collaborate with neighboring countries in the Himalayan region**, as GLOFs can have transboundary impacts.
  - Sharing information and best practices for GLOF risk reduction and management with neighboring countries can help to mitigate the risk.

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## State of Global Internet Freedom in 2023

**For Prelims:** Global Internet Freedom in 2023, [Artificial intelligence \(AI\)](#), Censorship Regime, [Indian Penal Code](#), Code of Criminal Procedure, [Central Bureau of Film Certification \(CBFC\)](#), [IT \(Intermediary Guidelines & Digital Media Ethics Code\) Rules, 2021](#).

**For Mains:** State of Global Internet Freedom in 2023, Censorship Regime in India and its Advantages and Limitations, E-governance- applications, models, successes, limitations, and potential, Transparency and accountability.

[Source: TH](#)

### Why in News?

According to a report by Freedom House (a Washington DC-based non-profit) on the state of **Global Internet Freedom in 2023**, there is a concerning trend of **declining Internet freedom for the 13<sup>th</sup> consecutive year**, with 29 countries experiencing a deterioration in the environment for human rights online.

- The report covers **developments between June 2022 and May 2023**. It evaluates Internet freedom in 70 countries, accounting for 88% of the world's Internet users
- The report evaluates countries based on **five censorship methods**, including Internet connectivity restrictions, blocks on social media platforms, website blocks, VPN blocks, and forced removal of content.

### What are the Key Highlights of the Report?

- **Role of AI in Digital Repression:**
  - [Artificial intelligence \(AI\)](#) plays a critical role in digital repression. AI-based tools are increasingly **sophisticated and accessible**, being utilized to spread disinformation in at least **16 countries**.
    - Additionally, AI enhances content censorship efficiency in 22 countries by automating the removal of content deemed unacceptable for political, social, or religious reasons.
- **Legal Repercussions and Violence for Online Expression:**
  - A record high of 55 out of the 70 assessed countries witnessed legal repercussions for online expression.
  - Moreover, in 41 countries, individuals were assaulted or killed due to their online statements.
- **Country-Specific Findings:**
  - Iran witnessed a **sharp rise in digital repression** due to Internet shutdowns, blocking of social media platforms, and increased surveillance to suppress anti-government protests.
  - China **remained the worst country for Internet freedom** for the ninth consecutive year, followed by Myanmar as the second most repressive country for online freedom.

### ▪ **India's AI-Enabled Digital Repression:**

- India has incorporated **AI-based censorship into its legal framework**, impacting freedom of expression and criticism of the ruling party.
  - The report warns about adverse repercussions for Indian democracy due to the **expanding censorship regime**, creating an uneven playing field as the country prepares for general elections in 2024.

## What is Censorship?

- Censorship is the **act of suppressing or controlling information**, ideas, or expression that are deemed objectionable, harmful, sensitive, or threatening to a particular group, organization, or government.
- It involves restricting or prohibiting the dissemination, publication, or access to certain content, either by individuals, institutions, or authorities.
- In India, **censorship laws** take everything that comes in public domain – advertisements, theatre, films, series, music, speeches, reports, debates, magazines, newspapers, plays, any form of art, dance, literature, written, documentary or oral works – in their sweep.

## How does Censorship Work in India?

### ▪ **Code of Criminal Procedure (Cr.P.C):**

- Section 95 of the Cr.P.C allows forfeiture of certain content/ publications.
  - It is punishable by the State **Government via an official notification under this section if any newspaper**, book, or document, wherever printed, contains any matter that the State Government considers harmful to the state.

### ▪ **CBFC:**

- The **Central Bureau of Film Certification (CBFC)** is a statutory body operational under the Cinematograph Act, 1952.
- It regulates the content of films that are brought into the public domain.
- The CBFC follows a system of prior certification of films and the broadcasters are bound by the guidelines under the 'Programme Code and Advertisement Code' to follow the certification provided.

### ▪ **Press Council of India:**

- It is a statutory and quasi-judicial body **which was established under the Press Council Act, 1978**.
- It acts as the self-regulatory body for the press and regulates what comes to the media domain.
- This body emphasizes the need for media persons and journalists to self-regulate, and acts as a watchdog for media content at large to assess if it goes against press ethics and the public interest.

### ▪ **The Cable Television Networks Act, 1995:**

- This act also filters the kind of content that can be broadcasted.
- For keeping a track over cable operators, the act mandates a compulsory registration for cable operators.

### ▪ **Social Media Platforms and the New IT Rules, 2021:**

- Given the significant rate of growth of social media, its censorship has been a growing point of concern in India as till recent times, it was **not under the direct supervision of any government authority** or direct and specific regulation thus far.
- At present, **the Information and Technology Act, 2000** regulates social media usage, and Sections 67A, 67B, 67C and 69A, in particular, include the specific regulatory clauses.

### ▪ **IT (Intermediary Guidelines & Digital Media Ethics Code) Rules, 2021:**

- These were preceded by the amendments to the 'Allocation of Business Rules' under the IT Act, 2000 to bring films, audio-visual programmes, news, current affairs content, and digital and online media including **OTT (Over The Top)** platforms like Amazon, Netflix, and Hotstar under the purview of Ministry of Information & Broadcasting (I&B), Government of India.

## What are the Advantages and Limitations of Censorship?

#### ▪ **Advantages:**

- **Censorship Prevents Disharmony:** Censorship prevents disharmony in society by **prevention of disclosure of objectionable content** that can lead to communal discord.
- **Preserves the Security of the State:** The censorship of the internet can help to protect social stability and national safety.
  - Since internet censorship can help to curb the large number of illegal activities and internet crimes, it is good for the stability of society.
    - Some illegal organizations or people may release black information which will disturb the national economy and polity.
- **Prohibits the Spread of False Beliefs or Rumours:** Government can use the Censorship for prohibiting the spread of false beliefs or rumours and can also be used to curb access to Harmful Activities by preventing their public display and others.
  - The censorship of internet can filter the inappropriate information online and protect children from disturbing websites, such as, child pornography, sexual violence and detailed instructions in crime or drug use.

#### ▪ **Limitations:**

- **Tool for Moral Policing:** The practical application of the censorship legislation can end up becoming a tool of moral policing that controls other people's lives rather than concerning itself with larger public issues.
  - The wide-ranging powers given to the regulatory body under the new rules, which is composed of bureaucrats, also runs the risk of discretionary political control.
- **Against the Constitutional Mandate of Free Speech:** The circumferences of morality, taste, and distaste differ widely in India.
  - Hence, this level of intense censorship is far off-course from the constitutional mandate of free speech and expression as guaranteed to all Indian citizens (subject to certain reasonable restrictions).

## Way Forward

- There need to safeguard freedom of **speech and expression through strong legal and regulatory safeguards** for digital communications and access to information.
- It is important that an appropriate regulation of AI is there in **order to ensure that it is used to bolster internet freedom** and not suppress it.

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## Nobel Peace Prize 2023

[Source: TH](#)

### Why in News?

Recently, **Iranian activist Narges Mohammadi** has been chosen by the Royal Swedish Academy for the coveted **Nobel Peace Prize, 2023** for her fight against the oppression of women in Iran and her fight to promote human rights and freedom for all.

- The Prize recognizes their contribution for many years, **promoting the right to criticize arbitrary policies and protecting the fundamental rights of citizens.**
- In [2022, Nobel Peace Prize](#) was awarded to human rights advocate Ales Bialiatski from Belarus, the **Russian human rights organization Memorial, and the Ukrainian human rights organization Center for Civil Liberties.**
- Other 2023 Nobel Prizes for Literature, [Chemistry](#), [Physics](#) and [Medicine](#) have already been announced.

### Who is Narges Mohammadi?



#### ▪ **About:**

- The **2023 Nobel Peace laureate Narges Mohammadi** is a woman, a human rights advocate, and a freedom fighter.
  - As per the Academy, this year's Nobel Peace Prize also recognises the hundreds of thousands of people who have demonstrated against the theocratic regime's policies of discrimination and oppression targeting women.
  - The motto adopted by the Iranian demonstrators - "**Woman - Life - Freedom**" - suitably expresses the dedication and work of Narges Mohammadi.

#### ▪ **Contributions:**

- Ms. Mohammadi advocates **against the death penalty in a country that reports most state executions**. A strong advocate of women's rights since her days as a college student.
- She was **arrested for the first time in 2011** for her efforts to assist incarcerated activists and their families.

#### ▪ **Fight for Human Rights:**

- While in prison, she began opposing the regime's systematic use of torture and **sexualised violence against political prisoners, especially women**, that is practised in Iranian prisons.
- **During Mahsa Amini Protests (Iranian Hijab Movement)**, she expressed support from the prison for the demonstrators and organized solidarity actions among her fellow inmates.
- **Other Award Received by Mohammadi are:**
  - Alexander Langer Award 2009
  - UNESCO/Guillermo Cano World Press Freedom Prize and the Olof Palme Prize earlier in 2023.
  - Her book 'White Torture: Interviews with Iranian Women Prisoners' also won an award for reportage at the International Film Festival and Human Rights' Forum.

### **What is the Iranian Hijab Movement?**

- The **Iranian law strictly recommends women to wear hijabs or headscarves** with their regular outfits. **Anyone not following this is recently being arrested, warned, or punished severely.**
  - **Mahsa Amini, a 22 years old youth**, was arrested for breaching the dress code of Iranian women.
- The arrest of Mahsa Amini **by the Iranian morality police**, followed by her death, led to the outbreak of a massive protest by the Iranian women demanding greater freedom.
  - This demand at present is no longer restricted to Iran but has taken the shape of a worldwide protest.
    - The other important western cities, including Auckland, London, Melbourne, New York, Paris, Rome, Seoul, Stockholm, Sydney, and Zurich, also saw demonstrations with banners displaying "**Women, life, liberty.**"

# THE NOBEL PEACE PRIZE 2023

Illustration: Niklas Elmehed



## Narges Mohammadi

“for her fight against the oppression of women in Iran and her fight to promote human rights and freedom for all”

THE NORWEGIAN NOBEL COMMITTEE

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## Doping Practices In India

[Source: IE](#)

### Why in News?

Recent events at the Delhi athletics championship have highlighted the extent of **Doping** issue, as competitors fled from doping testers, and some events witnessed a mere single participant.

### What is the Doping Menace?

- **About:**
  - Consumption of **certain prohibited substances** by athletes to enhance performance.
- **Extent:**
  - Athletes **across all levels**, from school meets to national championships, engaging in amateur doping practices.
  - Hopes of **career breakthroughs** and national team spots drive these risky behaviours.
  - Most common usage involves drugs such as **Anabolic Steroids**.

### What is the Long-standing Issue of Doping in Indian Sports?

- **Pervasive Syringe Culture:**
  - Images of syringes in stadium bathrooms have persisted for decades.
  - Lack of proactive measures to deter doping practices.
- **Ineffectiveness of National Anti-Doping Agency:**
  - NADA's apparent absence in the lead-up to events, such as the Delhi championship.
  - Immediate results when officials conduct tests, indicating widespread doping.
- **Neglected Testing in Remote Areas:**
  - Competitions in remote regions proceed without anti-doping officials, potentially concealing higher doping rates.

## What Are the Root Causes of the Doping Menace?

- **Coaches and Parents' Quick-fix Mentality:**
  - Coaches and parents encourage athletes to seek shortcuts to success.
  - Pressures leading to unethical choices among aspiring athletes.
- **Lethargy in India's Anti-Doping Machinery:**
  - Inadequate measures to deter doping and instill fear of testing.
  - A lack of consistent and stringent anti-doping efforts.
- **Societal and Cultural Causes:**
  - The **lack of effective anti-doping education** and awareness among athletes and the general public.
  - The availability and accessibility of performance-enhancing drugs and methods.
  - The **culture and environment of sport and society**. Athletes may be exposed to a culture that tolerates or encourages doping, either explicitly or implicitly.

## What are the Potential Solutions?

- **Promoting a Clean Sports Culture:**
  - Encouraging honesty and integrity in sports from a young age.
  - Fostering a culture where doping is unacceptable.
- **Strengthening Anti-Doping Measures:**
  - Increasing the presence of anti-doping officials in competitions, even in remote areas.
  - Implementing more stringent and surprise testing.
- **Awareness Campaigns:**
  - Educating athletes, coaches, and parents about the dangers of doping.
  - Raising awareness about the consequences of doping on athletes' health and careers.
  - Reducing the availability of doping mixed inputs and diets which sports persons consume unknowingly through the [Food Safety and Standards Authority of India \(FSSAI\)](#).

## What are the Measures taken by the Government to Eliminate Doping in Sports?

- **NADA:**
    - [National Anti-Doping Agency \(NADA\)](#) was set up as a registered society **under the Societies Registration Act of 1860** with a mandate for Dope free sports in India.
  - The **Lok Sabha** passed the **National Anti-Doping Bill 2021** which seeks to create a statutory framework for the **National Anti-Doping Agency (NADA)**.
  - **National Drugs and Psychotropic Substances Act (NDPS) Act, 1985:** It **prohibits a person** from producing, possessing, selling, purchasing, transporting, storing, and/or consuming any narcotic drug or psychotropic substance.
  - **WADA:**
    - The [World Anti-Doping Agency \(WADA\)](#) was set up under the International Olympic Committee to develop, harmonize, and coordinate anti-doping regulations across all sports and countries.
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## Rapid Fire Current Affairs

### Sarakka Central Tribal University Approved for Telangana

Recently, The Union cabinet approved **Sarakka Central Tribal University in Telangana** which is named after **Sammakka-Sarakka**, revered tribal figure in Telangana State.

- Sammakka-Sarakka (also called **Medaram Jatara**) is the second-largest fair in India, after the **Kumbh Mela**, celebrated by the second-largest Tribal Community of Telangana- the **Koya tribe** for four days.
- It is a tribal festival honoring the fight of a mother and daughter, **Sammakka and Saralamma**, with the reigning rulers against an unjust law.
  - Medaram is a remote place in the **Eturnagaram Wildlife Sanctuary**, a part of **Dandakaranya**, the largest surviving forest belt in the region.
  - It is **celebrated once in two years** in the month of “**Magha**” (**February**) on the full moon day.
- Koya tribe is the **largest adivasi tribe of Telangana** and listed as **Scheduled Tribe** in Telangana.
- The community is **spread across Telugu speaking states of Telangana and Andhra Pradesh**.
- Koyas popularly call themselves as **Dorala Sattam (Lords group) and Putta Dora (original lords)**. Koyas call themselves “Koitur” in their dialect, like Gonds.

**Read More:** [Kakatiya Dynasty](#), [Tribal Dance Festivals](#)

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### Enzyme Mimetic to Degrade Pollutants in Waste-Water

Recently, Scientists at **Indian Institute of Science (IISc)** Materials Research Centre developed a **sunlight-driven enzyme mimetic for wastewater treatment**.

- The study introduced a **platinum-containing nanozyme called NanoPtA**.
- NanoPtA forms tape-like structures when in contact with wastewater and emits light to degrade pollutants.
- It can degrade common effluents in ten minutes under sunlight and **remains stable for up to 75 days**.
- **Nanozyme** may find applications in healthcare, particularly for neurological diseases.
  - Natural enzymes face limitations like sensitivity, complex production, and storage issues.
  - Nanozymes can overcome these challenges and mimic natural enzymes.

**Read More:** [Sewage Treatment](#), [Eutrophication](#)

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### Using Gravity to Solve Power’s Problem

**Gravity-based energy storage** is emerging as a solution to renewable energy intermittency and interruption, with the help of Energy Vault, which is in talks with Indian companies like NTPC, Tata Power, and ReNew Power.

- Energy Vault offers the EVx platform using gravity and mechanical elevators to store and release energy with 25-tonne blocks.
- It also focuses on short-term storage, eco-friendly materials, and **green hydrogen energy storage**.
  - India's push for renewable power makes energy storage crucial as its **renewable energy** growth presents challenges for grid managers.
- Most **energy storage worldwide comes from pumped hydro**, but alternative solutions are being explored.



- The Indian government is considering hydrogen and hybrid generation models for energy storage.
- Efforts are being made to **identify pumped hydro sites, including potential use of opencast mines.**

**Read More:** [Battery Storage](#), [Lithium-Ion Batteries](#)

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## 15-Minutes Cities and the Conspiracy Theories

Recently, Conspiracy theories have emerged online, falsely depicting **15-Minute Cities** as a dystopian plot to restrict people's movement and conspiracy theorists have associated 15-minute cities with totalitarian agendas and international organizations like the [World Economic Forum](#).

- The **term "15-minute cities"** was coined by Carlos Moreno in 2016 to reimagine urban planning for convenient access to essential services.
- The concept of 15-minute cities **aims to ensure that essential services are within a short walk or bike ride from one's home.**
  - **Low-traffic neighborhoods (LTNs)** are often linked to 15-minute cities and are seen by conspiracy theorists as part of a broader "war on drivers."

**Read More:** [Sustainable Cities](#), [Sustainable Urban Planning](#)

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