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Wednesday

An altered protein and fussy neurons conspire to cause microcephaly



Equity → focuses on fairness and justice

Pg. 6 *Still no sign of the language of equity and inclusion*


The general election 2024 is almost nearing its end. Yet, when the Election Commission of India (ECI) made the announcement for the election in March, the long video televised and propagated on social media, stood out for one detail – the absence of sign language interpreters. This is a small, but significant, example of the ways in which everyday life in India excludes Deaf and Hard of Hearing (DHH) citizens.

India's push for equity in education, health care, and rights cannot succeed without dismantling ableist barriers that exclude DHH people.

whether people are being paid or treated fairly

Consider the National Programme for Prevention and Control of Deafness, to prevent and treat hearing impairment and provide medical rehabilitation. While it is well-structured, it does not focus on the quality of life. It discusses theoretical aspects of screening procedures and hearing aid prescription, but does not mention the Indian Sign Language (ISL) which is an integral form of deaf communication. The Social Justice Ministry set up the ISL Research and Training Centre in 2015 officially, but ISL is still not recognised as an official language. Despite the National Education Policy 2020 recommending the standardised teaching of ISL across schools, its use in education systems remains sparse even in schools for the deaf.

Inclusion → whether people feel like they belong, whether they feel heard / valued





ALBIEIST
 ↳ the discrimination of and social prejudice against people with disabilities based on the belief that typical abilities are superior.
 Ableism is rooted in the assumption that disabled people require 'fixing' and define people by their disability.

Sign language versus oralism

The Indian education system still focuses on "oralism", where deaf people are taught to use their voices and lip read, instead of using their hands to communicate.

Most educators in deaf schools are not trained in ISL. Instead of creating better access and remediating marginalisation, the current deaf education system focuses on "rehabilitation", asking the deaf to adjust to their surroundings instead of removing social barriers. An exclusive focus on oralism has been criticised for creating an isolatory social structure for deaf people in an inherently ableist world. On the other hand, integrating sign language has been found to help deaf children in cognitive development and prevent linguistic deprivation; over 70 countries recognise national sign languages legally, which makes education and critical information truly

accessible to deaf citizens.

Our ableism is reflected in how invisible the deaf are in India.

rehabilitation
 ↳ care that can help you get back, keep, or improve abilities you need.

A headcount in India

In the 2011 Census, there were five million hearing-impaired people in India. The National Association of the Deaf counts 18 million. The World Health Organization estimates nearly 63 million Indians to have significant hearing impairment. However, they rarely find inclusion in our lives. Only 5% of deaf children find themselves in school, and it often takes them much longer to graduate, thanks to an oralist course structure.

Despite government initiatives to employ the deaf, they often struggle to secure employment. Protests erupted in 2020 due to recruitment favouring those with less than 40% hearing impairment. Multiple petitions to recognise ISL have been stonewalled, citing the adequacy of the Rights of Persons with Disabilities Act, (RPDA) 2016 for preserving and advancing the language. This failure, despite several protests, is a covert yet overt act of marginalisation.

What does everyday life look like for deaf people? Public transport announcements, TV shows, directions within public structures, and even calling helplines are made insurmountable tasks due to a lack of accessibility. Minuscule everyday things taken for granted by others become wars won after years of litigation and advocacy. Although Doordarshan pioneered a weekly news segment in ISL in 1987, its precedent has not been taken up by private news channels. While films, Indian Premier League 2024 cricket matches and OTT shows have come up with accessible options, we have a lot of slack to pick up.

Opportunities for the deaf community remain limited to housekeeping jobs, wait staff, and data entry operators. The private sector has programmes in place for accessibility and inclusion with captioning and interpreter services. However, the government sector has made little progress. Several state- and national-level protests have been mounted by the deaf over the years. Their demands for accessible education and better employment have been met with lathi charge or lackadaisical promises.



Despite the RPDA, policy changes mean little in the face of such lethargy in implementation.

The deaf community faces challenges and additional discrimination with access to health care as most hospitals in India lack interpreters. Complications increase for mental health-care access to the deaf community due to a lack of training in language interpretation. The Mental Healthcare Act of 2017 promises mental health care for all, but it is not effectively implemented, with only 250 certified sign language interpreters and no clear data on ISL-trained mental health professionals.

What needs to be done

The present situation demands diverging from ableism towards accessibility. ISL should be recognised as a language officially, and its use must be naturalised in schools and colleges, for hearing and DHH students alike. It should be taught by DHH individuals, further buffeting their employment opportunities. The hearing population should be able to practise ISL in everyday situations to achieve fluency in the language.

Health-care systems must be updated so that the deaf population has easy and accessible communication at all levels. DHH patients benefit from receiving care from language-concordant physicians. However, the regulatory medical, dental, and nursing commissions impose significant barriers on DHH individuals aspiring to health-care professions. Inclusivity will not only make the health-care workforce more diverse and inclusive but will also mainstream ISL interpreters.

Deaf programming should be par for the course across media channels. Channels with English language programming often have accessible subtitles. However, Hindi and other regional languages do not have ISL interpretation or subtitles. Government event announcements should have live ISL interpreters, a common feature in several countries. One can hope that with timely interventions in the right direction, we may witness real-time ISL interpretations in the next election mandated by the ECI.

Finally, more issues exist than are highlighted in this article. The authorities concerned should pay heed to the DHH community and its needs.

WHAT IS THE NEWS?

The Election Commission of India (ECI) recently made an announcement regarding the 2024 general election, which was notable for the absence of sign language interpreters in its televised and social media presentations. This omission highlights the broader issue of exclusion faced by Deaf and Hard of Hearing (DHH) citizens in India.

WHY IS IT SIGNIFICANT?

This incident is a small but significant example of the pervasive ableism in India that marginalizes DHH individuals. It underscores the need for inclusive practices in all facets of public life, including education, healthcare, and access to information. Despite various policies and programs aimed at improving equity, systemic barriers continue to hinder the full participation of DHH people in society.

WHERE AND HOW IT HAPPENED:

The absence of sign language interpreters was evident in the ECI's announcement video in March 2024. This video was widely propagated on social media, bringing attention to the lack of accessibility for DHH citizens in important national events.



THE BROADER CONTEXT:

The Indian education system predominantly focuses on "oralism," which emphasizes teaching deaf individuals to use their voices and lip read instead of using sign language. This approach often leads to social isolation and cognitive challenges for deaf students. Despite the National Education Policy 2020 recommending the teaching of Indian Sign Language (ISL) in schools, its implementation remains limited.

THE BROADER CONTEXT:

Access to healthcare is a significant issue for the deaf community due to the lack of interpreters in hospitals and the insufficient training of medical professionals in ISL. This is particularly problematic in mental health care, where communication barriers can exacerbate patient distress.

THE BROADER CONTEXT:

Employment opportunities for DHH individuals are limited, with many only finding work in low-paying jobs. Government initiatives to employ the deaf have been insufficient, and protests have arisen over discriminatory recruitment practices.

STATISTICAL OVERVIEW:

- According to the 2011 Census, there were five million hearing-impaired people in India. The National Association of the Deaf estimates this number to be 18 million, while the World Health Organization estimates nearly 63 million Indians have significant hearing impairment.
- Only 5% of deaf children are enrolled in schools, and many struggle with an oralist education system.

WAY FORWARD:

- Official Recognition of ISL: Indian Sign Language should be recognized as an official language to ensure its widespread use and acceptance. This would facilitate better integration into educational systems and public life.
- Inclusive Education: ISL should be naturalized in schools and colleges, taught by DHH individuals to create more employment opportunities and improve accessibility for deaf students.
- Accessible Healthcare: Health-care systems must be updated to include ISL interpreters at all levels. Regulatory bodies should reduce barriers for DHH individuals aspiring to health-care professions.
- Public Services and Media: Government event announcements, public transport, and media programming should include ISL interpretation. Private news channels should follow the precedent set by Doordarshan's weekly news segment in ISL.
- Government Initiatives: Proactive government measures are needed to enforce the Rights of Persons with Disabilities Act (RPDA) 2016, ensuring that policies are not just on paper but effectively implemented.

CONCLUSION:

The exclusion of DHH citizens in everyday life, as highlighted by the ECI announcement, calls for urgent action towards inclusivity. Recognizing and integrating ISL across various domains can significantly improve the



quality of life for the deaf community, ensuring they are not left behind in India's push for equity and development. Authorities must heed the needs of the DHH community to create a more inclusive society.

THE QUESTIONS OF PALESTINE'S U.N. MEMBERSHIP

Israel's war on Gaza has raised several ethical, political, and diplomatic questions. One diplomatic development that has attracted a lot of interest is Palestine's renewed application for membership of the United Nations (UN). Ironically, its quest is stuck at the UN Security Council (UNSC) due mainly to the geopolitical calculations of the U.S., which argued that membership should follow and not precede a negotiated solution to the long-standing conflict.

This is not the first time that Palestine has attempted to obtain UN membership. In 2011 too, its request was opposed by the veto-bearing U.S. in the UNSC. Since then, Palestine enjoys only non-member observer status.

This year, in April, after the UNSC failed to agree on Palestine's request because of the lone veto cast by the U.S. in its capacity as a permanent member, the UN General Assembly (UNGA) stepped in to voice support to the Palestinian application. On May 10, the UNGA overwhelmingly adopted a resolution affirming Palestine's eligibility to assume full membership in the UN. It also urged the UNSC to favourably consider Palestine's request.

Norms and politics

The UN requires membership seekers to be "peace loving" states and to be able and willing, in its judgment, to carry out the obligations of the Charter. While the criteria were liberally interpreted, the procedural threshold laid down for admission turned out to be decisive and difficult, and was dictated by the political exigencies of the five permanent members (P5) in the UNSC at any given time. As such, membership applications require recommendation without the express opposition of any of the P5 before the UNGA accepts the admission request. In other words, the UNSC's recommendation is ruled out if any of the P5 casts a negative vote

by exercising their veto power, whereas no such veto power applies in the UNGA except that the decision should be cleared by a two-thirds majority.

When Cold War politics stalled numerous admission requests in the UNSC in early years, the UNGA sought the World Court's opinion on whether the UNGA had the power to admit states in the absence of the UNSC's recommendation. The Court ruled in 1948 that the UNSC's recommendation is a prerequisite for the UNGA to exercise its power. Subsequently, the deadlock in the UNSC was broken to recommend all pending applications. This marked successive decades of steady increase of the total membership from the 51 founding members to 193 today. It would not be off the mark to note that membership of the UN is invariably viewed as a sought-after confirmation of sovereign statehood of the countries which gained independence from foreign rule or occupation.

The example of Mongolia is comparable to Palestine's plea. When Mongolia's membership application was stuck in the UNSC, the UNGA intervened with a resolution similar to what was done in the Palestine case, suggesting that Mongolia deserves a favourable recommendation by the UNSC. Eventually Mongolia became a member in 1961.

India's approach

India joined 142 member countries in supporting the UNGA in the May 2024 resolution favouring Palestine's case for membership. India opined that membership status could enhance the prospect of a two-state solution to the protracted Israel-Palestine conflict. Notably, India's position to the membership question is now entirely in line with the approach articulated during the Nehruvian era – that UN membership should be open to all state applicants without discrimination. In fact, there is not a single instance of India opposing



What is the way forward?

Clearly Palestine cannot assume full membership bypassing the UNSC and the U.S. China and Russia are apprehensive that such bypassing could become a precedent for the admission of Taiwan or Kosovo later. In a less likely scenario, the U.S. might refrain from casting yet again its veto or abstain from voting, as an expression of displeasure with Israel for ignoring its advice to cease attacks against Gazan civilians, thereby paving the way for the UNGA's approval of Palestine's membership. Israel might protest and quit the UN. If the UNSC stalemate continues, the

UNGA could possibly consider keeping Israel out of its deliberations. Such a bold tactical move, which is short of Israel's suspension or expulsion that would be impractical without the UNSC's recommendation, has precedents. South Africa in the apartheid era and the Serb Republic of Yugoslavia during the brutal ethnic cleansing era were barred from participating in the UNGA.

Apart from these theoretical options, accretion of participatory privileges to Palestine, just short of the power to vote in the UNGA and eligibility to be elected to other major principal organs of the UN, from September would signal that might cannot become right in this age.

UNGA
 ↳ established in 1945 under the charter of the United Nations
 ↳ HQ: New York city
 One of the six principal organs of the UN
 Each of 193 member states of the UN has an equal vote.

WHAT IS THE NEWS?

Palestine has once again applied for full membership in the United Nations (U.N.), a move that has garnered significant attention amidst the ongoing conflict in Gaza. This application, however, has faced obstacles at the U.N. Security Council (UNSC) due to the geopolitical calculations of the United States, which insists that U.N. membership for Palestine should follow a negotiated resolution to the Israel-Palestine conflict.

UNSC:

- The United Nations Charter established six main organs of the United Nations, including the UN Security Council (UNSC).
- UNSC has the primary responsibility for the maintenance of international peace and security.
- Under the Charter of the United Nations, all Member States are obligated to comply with Council decisions.
- The Security Council takes the lead in determining the existence of a threat to the peace or act of aggression.
- The Security Council has permanent residence at the United Nations Headquarters in New York City.



UNSC - POWERS

- Establishment of peacekeeping operations
- Establishment of international sanctions
- Authorization of military action through Security Council resolutions

UNSC – MEMBERS:

The U.N. Charter provides for 15 members on the UNSC:

- 5 permanent members known as P5, including United Kingdom, China, France, Russia and the US.
- They have veto power over decisions of UNSC.
- 10 non-permanent members

UNSC non-permanent membership:

- Each year the 193-member General Assembly elects ten non-permanent members for a two-year term at the UNSC.
- The 10 non-permanent seats are distributed on a regional basis:
- 5 for African and Asian countries (3 are for Africa and 2 for Asia)
- Note: There is an informal understanding between the Africa and Asia to reserve one for an Arab country. The Africa and Asia Pacific group takes turns every two years to put up an Arab candidate.
 - 1 For Eastern European countries
 - 2 For Latin American and Caribbean countries
 - 2 For Western European and other countries.

BASIS FOR PERMANENT MEMBERSHIP:

According to Oppenheim's International Law : United Nations, "Permanent membership in the Security Council was granted to five states based on their importance in the aftermath of World War II." Sometimes referred to as the P5, the permanent members of the Security Council have a unique role that has evolved over time.

WHY IS IT SIGNIFICANT?

This is not the first time Palestine has sought U.N. membership. A similar attempt was made in 2011, which was also thwarted by a U.S. veto in the UNSC. Currently, Palestine holds non-member observer status at the U.N. The recent application underscores the persistent struggle for international recognition and the complexities of global diplomacy surrounding the Israel-Palestine conflict.

WHERE AND HOW IT HAPPENED:

The renewed application was submitted to the UNSC, which failed to reach an agreement due to a veto cast by the U.S. As a result, the U.N. General Assembly (UNGA) stepped in and, on May 10, 2024, overwhelmingly adopted a resolution affirming Palestine's eligibility for full U.N. membership and urged the UNSC to favorably consider the request. This intervention by the UNGA echoes historical precedents where the Assembly played a critical role in similar situations, such as the case of Mongolia in the 1960s.



NORMS AND POLITICS:

The U.N. Charter stipulates that membership seekers must be “peace-loving” states capable and willing to fulfill the obligations of the Charter. Despite these criteria being liberally interpreted, the procedural threshold for admission is stringent. A membership application must receive a recommendation from the UNSC without the opposition of any of the five permanent members (P5), which include the U.S., China, Russia, France, and the U.K. This requirement has often led to political deadlocks, as seen in Palestine's case.

INDIA'S APPROACH:

India supported the May 2024 UNGA resolution favoring Palestine's full membership. India's stance aligns with its historical policy, which advocates for open U.N. membership for all state applicants without discrimination. This policy was evident when India supported Pakistan's admission in 1947 and China's representation in 1971, despite its border conflicts with both countries.

WAY FORWARD:

Achieving full U.N. membership for Palestine without UNSC endorsement seems improbable. However, several potential scenarios could alter the situation:

1. U.S. Refrain from Veto: In an unlikely scenario, the U.S. might abstain from casting a veto as a signal of dissatisfaction with Israeli actions, allowing Palestine's membership to be approved by the UNGA.
2. Exclusion of Israel from UNGA: If the UNSC stalemate continues, the UNGA could consider barring Israel from its deliberations, mirroring past actions against apartheid South Africa and the Serb Republic of Yugoslavia during the ethnic cleansing era.
3. Continued Stalemate: The most likely scenario is the continuation of the current impasse, with the U.S. maintaining its veto and Palestine remaining a non-member observer state.

On Fire Safety Regulations in India:

What happened at the Rajkot gaming centre and at the New Born Baby Care Hospital in New Delhi? What are the various laws and guidelines which stipulate rules around fire safety in buildings? How have courts responded to negligence over public safety?





WHAT IS THE NEWS?

A tragic fire at the TRP Game Zone in Rajkot, Gujarat on May 25, 2024, resulted in the death of at least 32 people, including several children. On the same day, another fire at the New Born Baby Care Hospital in Vivek Vihar, Delhi, led to the death of seven newborns. These incidents have brought attention to the inadequate fire safety measures and enforcement in public buildings across India.

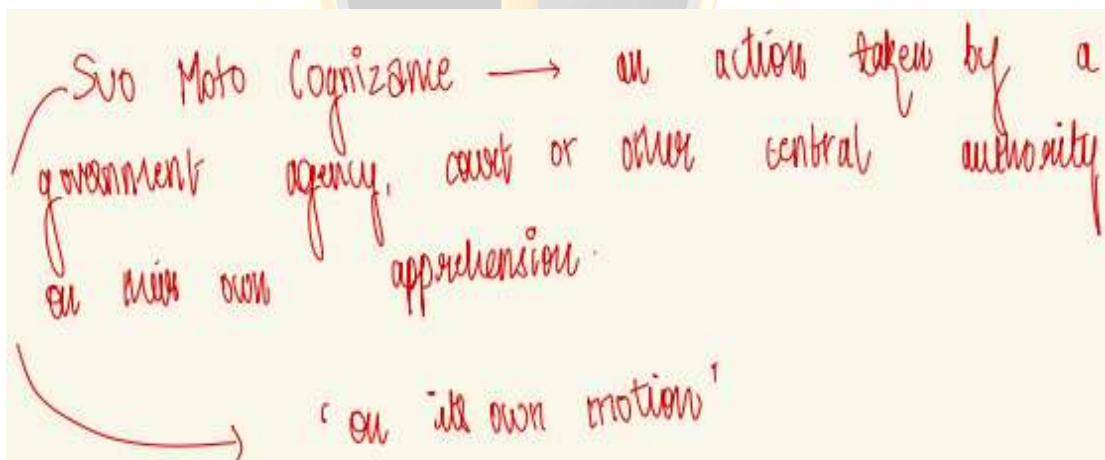
WHY IS IT SIGNIFICANT?

The Rajkot and Delhi fires have exposed the critical lapses in fire safety regulations and enforcement in India. These tragedies highlight the failure of authorities to ensure compliance with fire safety norms, putting the lives of citizens at risk in public and private spaces. The focus is now on the role of fire certification by authorities, the issuance of No Objection Certificates (NOC), and the failure to address illegal constructions.

WHERE AND HOW IT HAPPENED:

Rajkot: The fire broke out at the TRP Game Zone, a gaming center built with a metal frame and sheets, which trapped many victims inside. The Gujarat High Court took suo motu cognizance of the incident, leading to the transfer of key officials and the suspension of municipal officers responsible for preventing illegal constructions. Four individuals, including the operator of the game zone, were arrested.

Delhi: The fire at the New Born Baby Care Hospital was exacerbated by the presence of numerous oxygen cylinders. The hospital owner and the doctor on duty were arrested. Preliminary reports indicated that the lack of fire safety measures significantly contributed to the severity of the incident.



FIRE SAFETY REGULATIONS:

1. Model Building Bye-Laws, 2016: These laws, along with Chapter 11 on "Fire Protection and Fire Safety Requirements," provide a framework for state governments to ensure fire safety. However, implementation and adherence to these norms are often lacking.
2. National Building Code (NBC): Part 4 of the NBC lays down fire safety norms, but states are responsible for incorporating these provisions into their regulations and ensuring compliance.
3. Gujarat's Comprehensive Development Control Regulations, 2017: These regulations require the Chief Fire Officer's opinion even for temporary structures and mandate compliance with the Fire Prevention and Life Safety Measures Act, 2013.



HISTORIC CONTEXT

1. Uphaar Cinema Tragedy, 1997: This incident led to the conviction of the venue's owners for negligence, highlighting the consequences of violating fire safety regulations.
2. Surat Fire, 2019: Another deadly fire in a tuition center in Surat led to renewed calls for stricter fire safety enforcement in public buildings.

WAY FORWARD:

- **Stricter Enforcement of Existing Regulations:** Authorities must ensure strict adherence to the NBC and Model Building Bye-Laws. Regular audits and inspections should be conducted to ensure compliance.
- **Recognition and Removal of Illegal Structures:** States must identify and dismantle unauthorized buildings that pose fire hazards. The Gujarat High Court's suo motu action should serve as a precedent for other states.
- **Improved Training and Resources for Fire Safety:** There is a need for better training of fire safety personnel and increased resources to enforce fire safety measures effectively.
- **Public Awareness and Accountability:** Public awareness campaigns about fire safety and the responsibilities of building owners and managers should be intensified. Accountability measures should be in place to penalize violations.
- **Technological Solutions:** Implementation of advanced fire detection and suppression technologies in public buildings can significantly reduce the risk and impact of fires.

CONCLUSION:

- The recent fires in Rajkot and Delhi have underscored the urgent need for comprehensive fire safety measures and strict enforcement of regulations. Authorities must take proactive steps to ensure that public buildings are safe and compliant with fire safety norms to prevent such tragedies in the future.

‘Credit growth to slow to 14% on risk weights, softer GDP’

CRISIL sees a 200 basis points easing in bank credit expansion in FY25 from 16% pace last year due to a high base, revision in risk weights and a slowing in the economic growth momentum

The Hindu Bureau
MUMBAI

Bank credit growth in FY25 is expected to moderate 200 basis points (bps) to 14% from an estimated 16% in FY24 due to a high base effect, a revision in risk weights and a slower pace of gross domestic product (GDP) growth, CRISIL Ratings said in a report.

‘Capex tailwind’

However, a revival in private corporate capital expenditure, especially to-

Credit slowdown

Revision in risk weights are seen as a drag on loan growth this year, according to credit rating agency CRISIL



- A revival in private capex especially in H2 could, however, provide a tailwind
- Fundamental drivers of credit demand broadly intact but pace of deposit growth could constrain credit growth
- Growth in credit to MSMEs seen slowing in FY25 on a high base

wards the second half of the current year could provide a tailwind, the rating agency said.

Stating that the fundamental drivers of credit demand were broadly intact, it said the pace of deposit

growth could keep a check on credit growth, even though the differential between the two had reduced over the past year.

“Within the expected overall bank credit growth of 14% in fiscal 2025, the largest segment, corporate credit (45% of bank credit) should see growth remaining steady at 13%, while retail (28% of bank credit), the second-largest segment, is expected to grow the fastest at 16%,” CRISIL said, adding growth in credit to MSMEs would slow down on a high base.



WHAT IS THE NEWS?

- CRISIL Ratings has projected that bank credit growth in India will moderate to 14% in the fiscal year 2025 (FY25), down from an estimated 16% in the fiscal year 2024 (FY24). This forecast is influenced by several factors including a high base effect, revised risk weights, and a slightly slower GDP growth rate.

WHY IS IT HAPPENING?

- **High Base Effect:** The high growth rate in FY24 creates a larger base, making percentage growth appear smaller in FY25 even if the actual volume of credit extended remains substantial.
- **Revision in Risk Weights:** Changes in risk weight allocations, particularly the 25 percentage points higher risk weight on lending to higher-rated non-banking financial companies (NBFCs), will impact the growth dynamics.
- **Slower GDP Growth:** GDP growth is expected to slow to 6.8% in FY25 from an estimated 7.6% in FY24, which will likely temper credit demand.

HOW IS IT EXPECTED TO UNFOLD?

Sector-wise Credit Growth:

- **Corporate Credit:** Expected to maintain steady growth at 13%, driven by private sector industrial capital expenditure (capex).
- **Retail Credit:** Anticipated to grow the fastest at 16%, reflecting strong consumer demand.
- **MSME Credit:** Growth is expected to slow due to the high base effect from previous years.

Drivers of Growth:

- **Capex Revival:** A revival in private corporate capex, particularly in sectors like steel, cement, pharmaceuticals, electronics, semi-conductors, electric vehicles (EVs), and solar modules, is expected to provide a boost.
- **Deposit Growth:** The pace of deposit growth will be crucial as it impacts banks' ability to fund credit growth. Banks' use of excess statutory liquidity ratio (SLR) holdings to manage funding needs has reduced their flexibility.

CHALLENGES AND SOLUTIONS:

- **Deposit Growth:** Slower deposit growth could limit credit expansion. Competition for deposits is expected to keep deposit rates elevated, affecting banks' margins.
- **Funding Management:** Banks have been managing funding requirements by utilizing excess SLR holdings, but with declining excess SLR, the focus on deposit growth becomes even more critical.

WAY FORWARD:

- **Balancing Growth and Margins:** Banks need to balance their growth aspirations with the need to protect margins. Mobilizing cost-effective deposits will be key.
- **Sectoral Focus:** Strategic focus on sectors poised for capex recovery and emerging sectors will be important for sustaining credit growth.
- **Monitoring Systemic Liquidity:** Banks will need to keep a close watch on systemic liquidity and adapt their strategies accordingly to ensure sustainable growth.



- Regulatory Compliance: Adhering to revised risk weights and other regulatory requirements will be essential to maintain a healthy growth trajectory while managing risks.

RBI unveils Pravaah portal for approvals

The Hindu Bureau
MUMBAI

Reserve Bank of India (RBI) Governor Shaktikanta Das on Tuesday unveiled three major initiatives of the Reserve Bank of India, namely the Pravaah portal, Retail Direct Mobile App and a FinTech Repository.

The Pravaah portal will make it convenient for any individual or entity to apply online for various regulatory approvals in a seamless manner, the RBI said.

The Retail Direct Mobile App will provide retail investors ease of transacting in G-Secs, it added. The FinTech Repository will contain information on data of Indian FinTech firms.

WHAT IS THE NEWS?

- The Reserve Bank of India (RBI) Governor Shaktikanta Das announced three significant initiatives: the Pravaah portal, the Retail Direct Mobile App, and a FinTech Repository. These initiatives were previously mentioned in RBI's bi-monthly statements on development and regulatory policies across 2023 and 2024.

WHY ARE THESE INITIATIVES IMPORTANT?

- Pravaah Portal: This initiative aims to streamline and simplify the process of obtaining regulatory approvals from the RBI. By enabling online applications, it seeks to enhance the efficiency and transparency of the approval process.
- Retail Direct Mobile App: This app is designed to facilitate retail investors' access to government securities (G-Secs), making it easier and more convenient to invest directly in these financial instruments.

WHY ARE THESE INITIATIVES IMPORTANT?

- FinTech Repository: This repository will gather comprehensive data on Indian FinTech firms. It aims to provide a better understanding of the sector from a regulatory perspective, aiding in the formulation of appropriate policies.

PARVAAH PORTAL:

- Functionality: The portal will allow individuals and entities to apply for various regulatory approvals online.
- Benefits: It will streamline the process, reduce paperwork, and make it easier for applicants to track the status of their applications.



RETAIL DIRECT MOBILE APP:

- **Functionality:** The app will provide retail investors with a user-friendly platform to transact in government securities.
- **Benefits:** It will offer seamless access and ease of use, encouraging more retail participation in the G-Secs market.

FINTECH REPOSITORY:

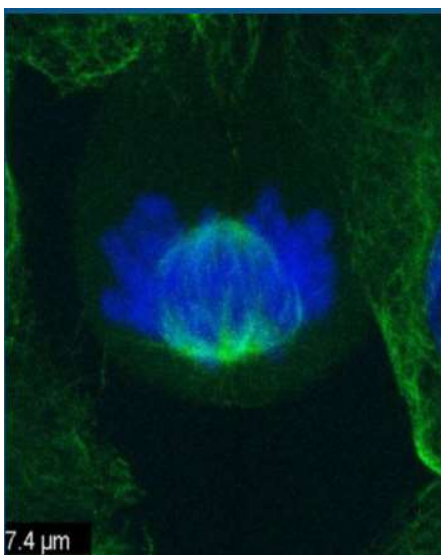
- **Functionality:** This repository will compile extensive data on FinTech firms operating in India.
- **Benefits:** It will help regulators understand the FinTech landscape better, facilitating the design of targeted and effective regulatory policies.

BENEFITS:

- **Enhancing Transparency and Efficiency:** The Pravaah portal is expected to significantly improve the transparency and efficiency of the regulatory approval process, benefitting both the RBI and the applicants.
- **Boosting Retail Investment:** The Retail Direct Mobile App aims to democratize access to government securities, potentially increasing retail investment in these instruments.
- **Informed Policymaking:** The FinTech Repository will provide valuable insights into the FinTech sector, aiding the RBI in crafting well-informed regulatory frameworks that support innovation while managing risks.

AN ALTERED PROTEIN AND FUSSY NEUROUS CONSPIRE TO CAUSE MICROCEPHALY

The SASS6 gene and its variants have been implicated in a developmental process that leads to microcephaly. A new study has found that if one copy of this gene is non-functional, the other retains some function. So if both copies are non-functional, a human embryo dies before it becomes a foetus.



Microcephaly is a condition in which a baby's head is much smaller than normal. Most children with microcephaly also have a small brain, poor motor function, poor speech, and abnormal facial features, and are intellectually disabled.

Researchers believe the roots of the condition lie in the peak phase of brain development in the embryo – when the cells that eventually become neurons fail to divide normally. Clinicians can diagnose microcephaly before the baby is born using foetal ultrasound and magnetic resonance imaging.

The SASS6 gene

In particular, since 2014, a gene called SASS6 and its variants have been implicated in this developmental process. On March 19, researchers at the Affiliated Maternity and Child Health Care Hospital of Nantong University, China, presented “the genetic findings of members of a nonconsanguineous Chinese couple with a history of microcephaly and foetal growth restriction during their first pregnancy”.

The team's findings reinforced the SASS6 gene's role in causing microcephaly. But more importantly, the team also found that if one copy of the SASS6 gene was non-functional, the other retained at least some function. The implication was that if both copies are non-functional, the human embryo dies before it becomes a foetus.



"[Our] findings confirm the pivotal role of SASS6 in microcephaly pathogenesis and reveal an expanded view of the phenotype and mutation spectrum associated with this gene," the researchers wrote in their paper, published in the *American Journal of Medical Genetics*.

Similarly, in a February 2024 study, researchers at the University of Cologne, Germany, reported that they modified mouse embryo-derived cells to remove all functional SASS6 genes. These genes contain instructions for cells to make structures called centrioles. But even after the genes were removed, the cells were able to make passable, if also abnormal, centrioles.

The problem arose when the cells were nudged to develop into neurons: at this point, all the centrioles made without using the gene's recipe disappeared, and the cells couldn't differentiate into neurons.

Consanguineous → two individuals who are related by blood produce off-spring

Non-Consanguineous → occur between unrelated individuals.

Centrioles → imp. for cell division.
typically found in pairs, near the nucleus of a cell.
Function → cylindrical structures that are made up of nine triplets of microtubules arranged in cylindrical shapes. They serve as the cell's skeletal system.

Centrioles → made up of nine triplets of microtubules arranged in cylindrical shapes.
Malfunctioning centrioles can lead to issues in cell division, which is implicated in cancer and various genetic disorders such as microcephaly.

Consanguinity and genetic risk

According to Ashwin Dalal, a

paediatrician turned medical geneticist at the Centre for DNA Fingerprinting and Diagnostics, Hyderabad, 70% or more of cases of congenital microcephaly seen in the clinic come from consanguineous marriages. These are marriages between closely related individuals, such as between uncle and niece or between first cousins.

Consanguinity increases the risk of an individual inheriting a mutated copy of a gene from both parents. The risk is greater if the mutated gene is rarer in the general population.

Microcephaly is caused by mutations in 30 genes. Cells use 10 of these genes to encode proteins that are required to assemble the centrioles and for their subsequent function. When a cell divides, its centrioles help form another structure called the spindle.

During cell division, the old and new cells need to take a series of careful steps. The spindle is like the handrail along this staircase, helping the cells form and maintain their structure. For example, once the old cell makes two copies of its chromosomes, each copy sticks to the

centre of the spindle, which is an elongated structure. From there, the spindle moves each copy to its two ends. Each of these ends then becomes the nucleus of a new cell.

If a cell creates centriole proteins from mutated genes, however, cell division is affected as well.



The Ile62Thr mutation

In 2004, researchers discovered the SASS6 gene in the roundworm *Caenorhabditis elegans*. They also found that the protein that cells made using this gene was conserved across animals, meaning natural selection allowed this protein to exist in all members of the animal kingdom.

When the researchers suppressed the SASS6 gene in *C. elegans* embryos, they found that the cells failed to assemble new centrioles, resulting in arrested development.

In 2014, other researchers studied a consanguineous Pakistani family of which four members had microcephaly. All the affected individuals were found to carry a mutated version of the human SASS6 gene on both their copies of chromosome 1: one inherited from the father and the other from the mother.

The SASS6 gene encodes a protein that has 657 amino acids. This protein assembles new centrioles during the cell division process. In the study of the Pakistani family, the researchers were able to describe the mutation correlated with microcephaly: the amino acid isoleucine at position 62 had been replaced by threonine. Thus its name: Ile62Thr.

Last year, researchers at the University of Tulsa, in the U.S., introduced the Ile62Thr mutation into the *C. elegans* SASS6 gene. Their experiment, reported in the journal *Genetics*, revealed that this change didn't detectably impair centriole assembly and function in *C. elegans*. But when the worm's genome had another mutation that affected a different centriolar protein, the Ile62Thr mutation significantly increased centriole replication failure and embryo death.

Evidently, a protein made using a SASS6 gene with the Ile62Thr mutation is functional enough to allow individuals with other unaffected organs to be born and grow into adulthood. In *C. elegans*, it becomes deadlier when the second mutation is also present.

At the same time, humans with just the Ile62Thr mutation don't escape unscathed: the mutation's mild impairment of centriole function still dysregulates cell division enough to cause microcephaly.

Scientists conducted three studies since then, including the March study, and found six more SASS6 gene variants.

Neurons are finicky

As the February 2024 paper indicated, different cell types have different tolerances to a range of deficits in centriole composition and function.

In particular, the cells fated to become neurons are finicky and have the least tolerance for imperfect centrioles.

This is why, while an individual with a slightly defective SASS6 gene can survive to birth and adulthood, he/she also suffers serious brain and head deficits and intellectual disability.

(D.P. Kasbekar is a retired scientist)

WHAT IS THE NEWS?

- Recent research has highlighted the pivotal role of the SASS6 gene in the development of microcephaly, a condition characterized by a significantly smaller head and brain size in infants. The latest studies have provided deeper insights into the genetic mechanisms underlying this condition and have identified several new variants of the SASS6 gene associated with microcephaly.

WHAT IS IT IMPORTANT?

- Microcephaly is a severe developmental disorder with profound impacts on motor function, speech, facial features, and intellectual capabilities. Understanding the genetic basis of microcephaly is crucial for early diagnosis, potential interventions, and genetic counseling, particularly in populations with high rates of consanguineous marriages, where the risk of inheriting mutated genes is higher.

WHERE DID THE RESEARCH TAKE PLACE?

- The recent key studies were conducted by researchers at the Affiliated Maternity and Child Health Care Hospital of Nantong University, China, and the University of Cologne, Germany. These findings were published in reputable journals such as the American Journal of Medical Genetics and Genetics.



HOW WAS THE RESEARCH CONDUCTED?

- **Clinical Case Study:** Researchers in China studied a non-consanguineous couple with a history of microcephaly and fetal growth restriction. Genetic analysis reinforced the role of SASS6 in microcephaly and suggested that complete loss of function in both copies of this gene is lethal.
- **Genetic Experiments:** The University of Cologne team used mouse embryo-derived cells to explore the effects of deleting SASS6 genes. They found that cells could initially make abnormal centrioles, but these structures failed to persist when the cells attempted to become neurons, highlighting the gene's role in neuronal development.

WAY FORWARD:

- **Enhanced Genetic Screening:** Implementing comprehensive genetic screening for known SASS6 mutations in populations with high consanguinity could aid in early diagnosis and preventive measures.
- **Further Research:** Continued investigation into other potential variants of the SASS6 gene and their specific impacts on cell division and brain development is necessary to fully understand the spectrum of this disorder.
- **Therapeutic Interventions:** Exploring potential therapies that could mitigate the effects of these genetic mutations on neuronal development could improve outcomes for affected individuals.
- **Public Health Strategies:** Developing educational programs to raise awareness about the risks of consanguineous marriages and the importance of genetic counseling could help reduce the incidence of microcephaly.

CURRENT AFFAIRS MCQs

Q.1 The term “Karman line” was recently in news. It is:

- (a) The boundary line separating inner planets and outer planets.
- (b) The line separating Earth’s crust from Earth’s mantle.
- (c) The line separating the troposphere from the stratosphere.
- (d) The boundary line separating the Earth’s atmosphere from outer space.

Ans.

On Sunday (May 19), India-born aviator and commercial pilot Gopi Thotakura, together with five other space tourists, became the latest group of people to take a short recreational trip to space.

- Thotakura, who is stationed in the United States, is the first Indian space tourist, but over 50 others have made similar voyages, the most of which have occurred in the last three years.
- Thotakura travelled onboard a Blue Origin spaceship, one of the few private space enterprises that provides a thrill ride to passengers who desire to travel into space. The entire flight, from takeoff to landing, lasted only around ten minutes, during which the spacecraft reached a maximum height of approximately 105 km above the Earth.
- **Space flight begins around 100 kilometres above Earth after crossing the so-called Karman line, which is widely considered as the boundary line dividing the Earth’s atmosphere from outer space.**
- Thotakura’s journey was classified as a suborbital space flight. The spacecraft did not enter an orbit around the Earth. It passed the Karman line, remained there for some time, and finally returned to Earth.



Q.2 With reference to the Labour Force Participation Rate (LFPR), consider the following statements:

1. LFPR represents the demand for jobs in an economy.
2. It even includes people like a 35-year-old married woman who is not actively looking for a job or a 22-year-old who is busy pursuing higher education but has potential to be employed.
3. It excludes 65-year-old who no longer wants to work.

How many of the statements given above are correct?

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

Ans.

- The LFPR is the percentage of the working-age population that is demanding a job. Hence, statement 1 is correct.
- As such, it excludes people like a 35-year-old married woman who is not actively looking for a job or a 22-year-old who is busy pursuing higher education or a 65-year-old who no longer wants to work. Thus the LFPR represents the demand for jobs in an economy. Hence, statement 2 is not correct but statement 3 is correct.

Q.3 Naegleria fowleri, recently seen in news is:

- (a) A virus causing rare brain infection
- (b) A recently discovered butterfly
- (c) An extinct species of marine ecosystem
- (d) None of the above

Ans.

- A five-year-old girl undergoing treatment for primary amoebic meningoencephalitis (PAM), a rare infection caused by *Naegleria fowleri* or “brain-eating amoeba”, died at the Government Medical College Hospital in Kozhikode on Monday (May 20).
- Primary amoebic meningoencephalitis (PAM) is a rare brain infection that is caused by *Naegleria fowleri*. It is a free-living amoeba or a single-celled living organism.
- *Naegleria fowleri* lives in warm fresh water and soil around the world, and infects people when it enters the body through the nose. Higher temperatures of up to 115°F (46°C) are conducive to its growth and it can survive for short periods in warm environments.
- The amoeba can be found in warm freshwater, such as lakes and rivers, swimming pools, splash pads, surf parks, or other recreational venues that are poorly maintained or minimally chlorinated.
- Therefore, (d) is the correct answer.



Q.4 Which of the statements given below with reference to Project Udbhav, recently seen in news, is correct?

- (a) It aims to promote indigenous military knowledge by merging ancient strategic insights with modern military practices.
- (b) Its main objective is promote MSMEs with the support of international financial forums and agencies.
- (c) It addresses the lack of skill in specialised technologies and services and aims at opening opportunities for skill development.
- (d) It is an initiative of Government of India for research and development in the AI technologies.

Ans.

- A cooperative effort between the Indian Army and the United Service Institution of India 'Project Udbhav,' was launched at the first-ever Indian Military Heritage Festival in New Delhi.
- This project aims to promote indigenous military knowledge by merging ancient strategic insights with modern military practices.

CSAT COMPREHENSION

Read the following passage and answer the item that follow the passage. Your answer to the item should be based on the passage only.

In India, a majority of farmers are marginal and small, less educated and possess low adaptive capabilities to climate change, perhaps because of credit and other constraints. So, one cannot expect autonomous adaptation to climate change. Even if it was possible, it would not be sufficient to offset losses from climate change. To deal with this, adaptation to climate change is paramount, alongside at fast mitigation response. Another solution is to have a planned or policy-driven adaptation, which would require the government to come up with policy: recommendations. Perception is a necessary pre-requisite for adaptation. Whether farmers are adapting agricultural practices to climate change depends on whether they perceive it or not. However, this is not always enough for adaptation. It is important how a farmer perceives the risks associated with climate change.

Q.5 Which one of the following statements best reflects the most logical and rational message conveyed by the author of the passage?

- (a) Adaptation to climate change and mitigation response are basically the responsibilities of the government.
- (b) Climate change causes a change in government policies regarding land use patterns in the country.
- (c) Risk perceptions of farmers are important for motivating them for taking adaptation decisions.
- (d) Since mitigation is not possible, governments should come policies for quick response to climate change.

Ans.(c)

- The statement that best reflects the most logical and rational message conveyed by the author of the passage is: (c) Risk perceptions of farmers are important for motivating them to take adaptation decisions.



- The passage discusses the challenges faced by Indian farmers, who are predominantly marginal and small, less educated, and possess low adaptive capabilities to climate change. It states that autonomous adaptation to climate change is unlikely due to various constraints. Additionally, the passage highlights the need for adaptation and fast mitigation responses to climate change. It suggests that a planned or policy- driven adaptation, facilitated by government policies and recommendations, could be a solution. It also emphasizes the importance of farmers' perception of climate change risks for adaptation.
- From this information, it can be inferred that the author's most logical and rational message is that the risk perceptions of farmers play a crucial role in motivating them to make adaptation decisions. This implies that farmers' awareness and understanding of the risks associated with climate change are essential for them to take appropriate adaptive measures.
- Option (a) is totally wrong. Option (b) is not wrong, but is not the main idea. Option (d) is wrong as it rules out mitigation.

