

EPIC Aadhaar Link

Context

Recently, the Election Commission of India (ECI) started the process for linking Aadhaar with Electoral Photo Identity Card (EPIC) numbers.

Background

The move to link EPIC with Aadhaar was triggered by a controversy, when the ruling political party in West Bengal had flagged duplicate EPIC numbers being issued to voters in different States, raising concerns of electoral malpractices.

EPIC Number

- The EPIC number is a unique 10-digit voter ID card number provided by the Election Commission to every voter.
- This alphanumeric code is specifically assigned to each registered elector to help prevent impersonation.
- It was introduced in 1993 under the Registration of Electors Rules, 1960, to enhance electoral transparency.
- It is assigned via the ERONET digital platform when a new voter registers, after which it is linked to State and constituency data to ensure regional uniqueness.
- The number of the EPIC issued is printed on the electoral roll.
- The ERONET is a web-based platform which was developed for election officials, in multiple languages and scripts, to handle all processes pertaining to registration, migration, and deletion of names from electoral rolls. The platform automates the process of electoral roll management.

Current Status of Aadhaar-Voter Linking

- Around 60% of Indian voters have linked their Aadhaar to voter rolls.
- Over 90% completion has been achieved in states like Tripura, while Gujarat and Delhi lag behind at only 30%.

Timeline of EPIC Aadhaar Linking



2015

- ▶ **Launch of NERPAP (Feb 2015):** The Election Commission (EC) introduced the National Electoral Rolls Purification and Authentication Program (NERPAP) to eliminate duplicate entries in electoral rolls.
- ▶ **Aadhaar Linking:** EC attempted to authenticate EPIC data by linking it with the Aadhaar database.
- ▶ **Supreme Court Order (Aug 2015):** The Court ruled that mandatory use of Aadhaar should be limited to welfare schemes and PAN linking.
- ▶ **NERPAP Discontinued:** Following the ruling, the EC halted the NERPAP initiative.



2018



- ▶ The Supreme Court in *Puttaswamy judgement* (September 2018), upheld the constitutional validity of the Aadhaar Act, leading EC to seek amendments to the Representation of the People Act, 1950.



2021

- ▶ **Amendments (Dec 2021):** Parliament amended the RP Act, 1950, and the Registration of Electors Rules, 1960, to allow EPIC-Aadhaar linking.
- ▶ **Voluntary Aadhaar submission** for both new voters (Form 6 for identity verification) and existing voters (Form 6B for authentication).
- ▶ **Alternative Documents:** Voters without Aadhaar can submit other listed documents.
- ▶ **Voluntary Nature:** The word "may" ensures Aadhaar linking remains optional.
- ▶ **No Disqualification:** Applications cannot be denied, nor entries deleted, for not providing Aadhaar, if a valid reason is given.
- ▶ **Alternate IDs Accepted:** PAN card, Driving Licence, Passport, Bank passbook, etc.

2023



- ▶ While the above amendments were challenged in the Supreme Court, the EC in September 2023 informed the court that submission of the Aadhaar number is not mandatory.
- ▶ It added that it is looking into issuing appropriate clarificatory changes in the forms introduced for this purpose.

Presently

- ▶ Form 6 and 6B have not been amended till date as they continue to seek the same details as before.
- ▶ The forms require the voters to declare that they do not have an Aadhar number to avoid providing the same.



Need for Aadhaar Linkage with Voter ID (EPIC)

- **Elimination of Duplicate Registrations:** Linking Aadhaar helps remove instances of individuals being registered multiple times, ensuring that each voter has a unique identity.
- **Improved Data Accuracy:** By linking EPIC to Aadhaar, electoral rolls can minimize inconsistencies and ensure that only eligible voters are listed.
- **Prevention of Electoral Fraud:** Biometric verification through Aadhaar can significantly reduce impersonation and bogus voting, thereby increasing public trust in the electoral process.
- **Streamlined Voter Registration:** Aadhaar-based authentication simplifies the voter registration process, particularly for internal migrants, ensuring they are registered in their current place of residence.
- **Facilitates Access to Voting:** For many citizens, especially those in remote areas, linking Aadhaar can provide a more straightforward method to verify identity and access voting rights.

Challenges of EPIC Aadhaar Linkage

- **Privacy Concerns:** Linking Aadhaar with EPIC raises fears as sharing Aadhaar data could lead to breaches and misuse, especially identity theft, without robust data protection laws in place.
- **Inclusion of Non-Citizens:** Since Aadhaar does not serve as proof of citizenship, there is a risk that non-

citizens could be incorrectly included in the voter rolls, undermining the integrity of the electoral process.

- **Lack of Authentication and Effectiveness Concerns:** The EC does not authenticate Aadhaar numbers using biometrics or OTPs, raising doubts about the deduplication process's effectiveness.
- **Authentication Issues:** Biometric authentication can fail due to various reasons, such as poor quality fingerprints or iris scans leading to eligible voters being unable to verify their identity, particularly affecting those in rural areas.
- **Coercive Measures:** Reports suggesting ECI pressurising voters to link their Aadhaar numbers, leading to concerns about the voluntary nature of this process and potential disenfranchisement of those who refuse.
- **Legal and Legislative Hurdles:** The linkage process faces legal challenges, including questions about its compliance with existing laws and the potential need for legislative amendments to clarify the requirements for voters.

Way Forward

The right to vote is a constitutional right and part of the basic structure of free and fair elections. Public confidence is vital, and voters should be informed of the benefits of linking Aadhaar to EPIC. Concerns about voter secrecy should also be addressed, and linking forms should clarify that the Aadhaar is not mandatory.

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ENVIRONMENT AND GEOGRAPHY

Classify Sacred Groves in Rajasthan as Community Reserves

Context

Recently, The Supreme Court directed the Forest Department of Rajasthan to map and classify Orans (Sacred Groves) in the State as forests and notify them as community reserves under the Wildlife Protection Act, 1972.

Orans - Sacred Groves of Rajasthan

- It is named after local deities and medieval warriors and holds religious and social significance as small forest patches in the middle of the mighty Thar desert.
- They form the natural habitat for India's most critically endangered bird, the Great Indian Bustard (GIB), a protected species under the Wildlife Protection Act.
- They face the threat of destruction with their land being allotted for renewable energy infrastructure and high-tension power lines.

Background

- Rajasthan has around 25,000 sacred groves covering approximately six lakh hectares.
- They are known by names like 'orans', 'malvan', 'deo ghat', and 'baugh'.
- The present directive is a response to a challenge to position in the aftermath of the landmark case of *T.N. Godavarman v. Union of India*, where the Supreme Court broadened the definition of 'forest land' under Section 2 of the Forest (Conservation) Act, 1980 to include areas recorded as forests in government records, regardless of ownership.

Consequences of the Supreme Court Directive

- It shifts control of sacred groves from community-based management to the Forest Department.
- The decision conflicts with the Forest Rights Act, which recognises community rights over forest resources.
- The shift in control from community protection to Forest Department management could undermine the traditional governance of these areas.
- It creates jurisdictional conflicts between the Forest Department and gram sabhas.

- Communities traditionally conserving these groves may lose their direct role in management.
- Sacred groves are spiritually significant and state intervention may disturb traditional practices.

Sacred Groves

- Section 36C of Wild Life (Protection) Act, 1972 empowers the State Government for declaration of any private or community land, as sacred groves, for protecting fauna, flora and traditional or cultural conservation values and practices.
- Sacred Groves are community-regulated and conserved patches of forest land that have been traditionally protected by communities through customs, taboos, and spiritual beliefs.
- India has an estimated 1-10 lakh sacred groves (the highest in the world), which are known by different names in different states
 - Devara kadu in Karnataka
 - Devban in Himachal Pradesh
 - Kavu and Sarpa Kavu in Kerala
 - Sarna in Chota Nagpur
 - Jahera and Thakuramma in Odisha
 - Devgudi by Muria, Madia and Gond tribes of Maharashtra and Chhattisgarh.
 - Ki Law Lyngdoh, Ki Law Kyntang, Ki Law Niam in Meghalaya
 - Sabarkantha, Dahod, Banaskantha in Gujarat
 - Many groves ban resource use except for medicinal plants by custodians.
- The sites are maintained as inviolate spaces and are linked to religious and spiritual beliefs.
- **Importance**
 - Biodiversity hotspots with unique flora and fauna.
 - Water sources sustaining perennial streams.
 - Natural barriers against floods, landslides, and soil erosion.
 - Repositories of medicinal plants and cultural heritage.

Community Reserves

- The Wildlife Protection Act, 2002 introduced 'community reserves' as a category of Protected Areas alongside national parks and wildlife sanctuaries
- It is designated over community or private lands where locals voluntarily conserve habitats for wildlife and biodiversity.





Importance of Sacred Groves

- **Ecological Functions**
 - **Biodiversity and Conservation:** Sacred groves protect diverse plants and animals, including rare and medicinal species, acting as small nature reserves.
 - **Water Source and Soil Protection:** They are often linked to water sources like ponds and streams, supporting local water needs, while also preventing soil erosion and improving soil stability.
- **Social Functions**
 - **Community solidarity:** Sacred groves often serve as communal spaces where local communities come together for rituals and celebrations, leading to social cohesion and community bonding.
 - **Cultural Preservation:** They preserve local folklore and cultural practices, maintaining a strong cultural identity for the communities involved.
- **Religious Functions**
 - **Places of Worship:** Sacred groves are often associated with temples, shrines, and deities, serving as places of worship or totem and pilgrimage for various tribal clans.
 - **Spiritual Significance:** Trees like banyan, peepal, neem, and tamarind are seen as spirits, reinforcing religious beliefs and taboos that protect the groves.
 - **Rituals and Taboos:** The presence of taboos and rituals associated with these groves has historically ensured their preservation by discouraging activities like cutting trees and hunting.
- **Economic Functions**
 - **Medicinal Resources:** Sacred groves are rich in medicinal plants, providing essential resources for traditional and modern medicine.
 - **Livelihood Support:** They offer edible fruits, leaves, fibers, gums, and resins, supporting local economies and providing resources for indigenous communities.
 - **Livestock Support:** In some regions, sacred groves are crucial for livestock grazing, supporting local livestock-based economies.

Threats to Sacred Groves

- **Threat from Human Activities:** Rapid developmental activities, urbanization, encroachment for agriculture, logging, mining, deforestation, and construction of permanent structures.

- **Change in Religious Practices:** Shift from nature-centric culture to temple-centric culture, leading to the disappearance of traditional belief systems.
- **Poor Management and Negligence:** Lack of proper care, overgrazing by livestock, and negligence in maintaining sacred groves.
- **Environmental Degradation:** Invasion by exotic species like *Prosopis juliflora*, *Lantana camara*, and *Eupatorium odoratum*, along with changes in land use patterns for agriculture and plantations.

Way Forward

- **Monitoring:** Monitoring of the sacred groves through 'Biodiversity Monitoring Committees'.
- **Security:** Ensuring security through fencing and by establishing "buffer zones" around the sacred groves.
- **Community Participation:** Village communities should be educated and guided to preserve the grove's sanctity for future generations.
- **Restoration of Sacred Groves:** Restoration activities including planting native species, protection for seedlings and saplings, nursery establishment for rare, endemic plants, measures for soil and water conservation etc. can be undertaken.

Meghalaya's Initiative on Wetland Conservation

Context

Recently, the Meghalaya High Court took suo motu cognizance of the issue of wetland conservation in the state, highlighting the urgent need for protection and sustainable management of these ecosystems.

About

- This development aligns with global conservation efforts, particularly in light of World Wetlands Day, observed annually on February 2 since 1971, when the Ramsar Convention was signed in Ramsar, Iran.
- The theme for this year, "Protecting Wetlands for Our Common Future", reinforces the importance of wetlands in achieving sustainable development goals and addressing climate change challenges.

Background

- Wetlands are areas where water covers the soil or is present either at or near the surface of the soil all year or for varying periods during the year.



RIVER DOLPHINS IN INDIA

CONTEXT

Wildlife Institute of India conducted its first-ever comprehensive Dolphin population survey between 2021 and 2023 across the Ganga and Brahmaputra river basins and the Beas river.

GANGETIC DOLPHIN (*PLATANISTA GANGETICA GANGETICA*)

- ▶ Endemic to the Ganga-Brahmaputra river system.
- ▶ Classified as Endangered under the IUCN Red List and listed in Schedule I of the Wildlife Protection Act, 1972.
- ▶ Indicator species for river health
- ▶ The maximum number are found in Uttar Pradesh, followed by Bihar, West Bengal, Jharkhand, Rajasthan and Madhya Pradesh.



INDUS RIVER DOLPHIN (*PLATANISTA GANGETICA MINOR*)

- ▶ Found in the Indus basin, with a small population in the Beas River, Punjab.
- ▶ Also classified as Endangered and given Schedule I protection under the Wildlife Protection Act, 1972.
- ▶ Mainly found in Punjab.



DOLPHIN 'HOTSPOTS' AND 'COLDSPOTS'

Hotspots (High Dolphin Density Areas)

- ▶ **Chausa-Manihar Stretch (Bihar):** 590 km stretch with an encounter rate of 2.20 dolphins/km.
- ▶ **Manihari (Bihar) to Rajmahal (Jharkhand):** Encounter rate of 2.75 dolphins/km.
- ▶ **Bihar (Overall):** Encounter rate of 1.62 dolphins/km, attributed to deeper water and confluences of Ghaghara, Gandak, Kosi, and Son rivers.

Coldspots (Low or No Dolphin Presence Areas)

- ▶ **Narora to Kanpur (Uttar Pradesh):** 366 km stretch with an encounter rate of 0.1 dolphins/km.
- ▶ **Farukhabad-Kannauj Stretch:** Identified as a coldspot between Narora and Kanpur barrages.
- ▶ **Other Coldspots:**
 - Yamuna River (Kaushambi-Chitrakoot)
 - Sharda River (Pilibhit)
 - Rapti River (Balrampur-Siddharth Nagar)

DISASTER MANAGEMENT

Avalanche Hits BRO Site

Context

Recently, an avalanche struck a Border Roads Organization (BRO) site, trapping several laborers under the debris.

Avalanche

- **Definition:** According to the World Meteorological Organization, an avalanche is a sudden descent of a mass of snow and ice down a mountain slope, often carrying along earth, rocks, and various debris.
- **Occurrence of Avalanche**
 - **Weakening of Snowpack Layer:** Avalanche occurs when layers of snowpack in a particular region weaken. Weakening of snowpack creates instability and disturbs snow cohesion in affected built up areas.
 - **Fresh Snowfall:** It is most likely to occur after an area receives fresh snowfall which adds new layers of snow to the snowpack.
 - **Trigger Points:** According to the United Nations' Intergovernmental Panel on Climate Change (IPCC), snow avalanches can occur either spontaneously due to meteorological reasons or can be triggered by the passage of the people in an avalanche terrain.

Comparison: Loose Snow Avalanche vs Slab Avalanche

Aspect	Loose Snow Avalanche	Slab Avalanche
Internal Cohesion	Occurs in snow masses with little to no cohesion between snow grains.	Occurs in snowpacks with sufficient internal cohesion.
Trigger Point	Typically begins at a single point and fans out downslope.	Triggered when a slab of snow breaks away due to weakness in a lower layer.
Slope Conditions	Happens when snow lies on a steeper-than-natural angle slope.	Often develops on moderate to steep slopes with added stress/weight.

Weak Layer Position	The weak layer is on top of the snowpack.	The weak layer is below the slab, causing a large section to detach.
Triggering Factors	Often natural, e.g., due to warming or light snow load.	Triggered by new snow, wind-deposited snow, or human activity.
Frequency	Most common type of avalanche.	Less frequent, but more dangerous.
Size and Impact	Generally smaller and less destructive.	Can be massive, running for many kilometers with devastating impacts.
Danger Level	Lower danger level compared to slab avalanches.	Considered the most dangerous type of avalanche.

Causes of Avalanche

- **Natural Causes**
 - **Snowpack Strength:** Layers of snow hold together due to internal cohesion. If this balance is disturbed, a slab may slide down.
 - **Steep Slopes:** Avalanches are more likely on steep slopes as gravity increases the chance of snow slipping.
 - **Stress and Weakening:** Fresh snowfall adds stress. Rain or warming weakens the snowpack. This imbalance can trigger a slide.
 - **Other Factors:** Avalanches can be caused by icefalls, falling cornices, earthquakes, rockfalls, sudden warming, blizzards, and other avalanches.
- **Anthropogenic Causes**
 - **Global Warming and Increased Snowmelt:** Rising global temperatures, driven by human activities such as greenhouse gas emissions, have accelerated the rate of snowmelt and disturbed mechanical strength of the snowpack.
 - **Decreased Albedo due to Atmospheric Soot:** The deposition of black carbon (soot) from industrial emissions, biomass burning, and other human activities has reduced the albedo of snow and ice,



particularly in regions like the Himalayas. IPCC 6th assessment report notes how black shoots in Himalaya impact glaciers and lead to high rate of melting.

- **Human Activities:** Ski touring and mountaineering exercise (Norway) with high human footload due to better equipment availability also contribute to high stress and tension in snow blocks.
- **Changing Weather Patterns:** Human-induced climate change has altered weather patterns, including wind dynamics and precipitation. Change in wind pattern and increased snowfall (for example in Northern America) are responsible for increased avalanche events globally.
- **Construction and Deforestation:** Activities on high terrain negatively impact cohesion of soil and snow blocks, thereby increasing tension and reducing their strengths.
- **Other Factors:** Loud sounds such as shouts, machine noise, and sonic boom also play a role in avalanches as these events may disturb cohesion and equilibrium of the snow slab.

Impacts of Avalanche

- **Loss of human capital:** Avalanche results in loss of human lives, reducing disability adjusted life years, and imposing psychological conditions such as post traumatic disorder and emotional tolls resulting from loss of near and dear ones.
- **Loss of Physical Infrastructure:** Avalanche events often sweep away highways, towers, dams etc. and such damages impose high costs and contribute to lack of connectivity, leading to second order shock in forms of shutdown of schools, health facilities, and business.
- **Environmental Impact:** Avalanche may negatively impact ecosystems, impacting wildlife and disrupting ecosystem services.
- **Second order disaster:** Avalanche may contribute to flash flood and thus magnifying overall impact of the avalanche. For instance, the 2012 Chamoli flash flood was triggered by an ice avalanche.



NDMA Guidelines to Manage Avalanche

Disability-adjusted life year (DALY) is a time-based measure that combines years of life lost due to premature mortality (YLLs) and years lived with disability (YLDs), representing years of healthy life lost due to disability or time lived in less than full health.

PLACES IN NEWS

VANUATU

- 📌 **Context:** Recently, a former IPL chief and fugitive to acquired the citizenship of Vanuatu via its Golden Passport Scheme.

📌 The 'Golden Passport' Scheme, formally known as 'Citizenship-by-Investment' scheme, allows foreign nationals to acquire citizenship of Vanuatu for a sum of \$1,50,000 USD.

- 📌 **Location:** Vanuatu is a small island nation in the South Pacific. It consists of an archipelago of 83 islands, with 65 of them inhabited.
- 📌 **Bordered By:** Australia to the West, New Zealand to the North, and between Australia and Fiji.
- 📌 **Features:** Diverse landscapes, including rugged mountains, high plateaus, rolling hills, coastal terraces, and offshore coral reefs.
- 📌 **Active Volcanoes:** Mount Yasur, known for being one of the most accessible active volcanoes in the world.



BLACK SEA



- 📌 **Context:** Recently, Russia and Ukraine have agreed to halt military strikes in the Black Sea.
- 📌 **About:** The Black Sea is a large inland sea situated at the southeastern extremity of Europe.
- 📌 **Location:** It lies between the continents of Asia and Europe.
- 📌 **Bordered By:** Ukraine to the north, Russia to the northeast, Georgia to the east, Turkey to the south, and Bulgaria and Romania to the west
- 📌 **Features:** It is one of the marginal seas of the Atlantic and the ocean's 13th largest sea.
- 📌 **Inflowing Rivers:** Danube, Dnieper, and Dniester.

ETHICS

Ethical Issues Behind AI Generated Ghibli Art

Context

Recently, the use of AI to generate images resembling the renowned animation style of Studio Ghibli has highlighted ethical concerns about artificial intelligence tools trained on copyrighted creative works.

About

- Studio Ghibli, founded by Hayao Miyazaki and Isao Takahata in 1985, is a Japanese animation studio known for its hand-drawn films that combine rich storytelling with intricate artistry.
- Hayao Miyazaki, in particular, has resisted incorporating technology into the creative process, believing that the unique human experience cannot be captured by machines.
- The introduction of AI image generation tools, such as those demonstrated by ChatGPT, allows users to create artworks that resemble Studio Ghibli's style in a fraction of the time it would take traditional animators.
- This new capability has sparked a wider debate about AI's role in creative industries and the preservation of artistic legacies.

Ethical Issues Pertaining to the Debate

- **Human Artistic Legacy vs AI Enabled Artform**
 - The rapid use of AI-generated art presents a challenge to preserving artistic legacy as it threatens to overshadow traditional craftsmanship.
 - While AI can replicate visual styles, it lacks the unique stories, cultural context, emotional depth and personal expressions that define authentic human-created art.
- **Violation of Intellectual Property Rights**
 - AI generated artworks often raise significant questions about Intellectual Property Rights, particularly when AI models are trained on existing artworks without proper consent or compensation to the original creators.

- This creates ethical and legal concerns, as artists' works are being used to generate new art without recognition or benefit.

- **Issue of Cultural Appropriation**

- AI models trained on diverse cultural art forms may inadvertently produce works that appropriate cultural symbols, styles, or techniques without understanding their deeper significance.
- This lack of cultural sensitivity can lead to the commodification of sacred or historically significant art forms, potentially offending the communities whose culture is being misrepresented or exploited for commercial gain.

- **Function Creep**

- Function creep occurs when the use of an algorithmic system deviates from what is considered its purpose.
- Functional creep occurs when AI systems are repurposed or applied to functions beyond their initial legitimate goals, often without explicit consent or oversight.
- Such misuse poses legal, social, and ethical challenges, as the technology evolves in ways not originally anticipated or sanctioned.

- **Violation of Doctrine of Responsibility**

- The ambiguity surrounding the use and misuse of AI creates confusion over accountability.
- It is unclear who should be held responsible for violations of intellectual property rights—whether it's the company, the developer, or other involved parties.
- Clear frameworks of accountability are necessary to ensure AI technologies are used ethically and within legal boundaries, protecting the rights of creators and stakeholders.

- **Threats to Artists**

- AI has the potential to displace human artists, raising concerns about job security and the undervaluing of artistic work.
- With AI-generated alternatives becoming increasingly fast and accessible, the role of human artists could be diminished, leading to a shift in how society values the creative process.



Proposed Solutions

- **Hybrid Art Models:** AI could be used to supplement the artwork created by human artists so that it is used as a tool alongside humans rather than replacing human art.
- **Curation Platforms:** Specified public and online platforms that celebrate human made art that is characterised by its distinct cultural context, storytelling and emotional resonance.
- **Opt-in Training Datasets:** Only using artwork in training datasets that have explicit permission and offer fair compensation to creators.
- **Regulatory Frameworks:** Governments and international bodies must develop clear copyright laws for AI, including rights to derivative works and algorithm accountability.
- **Ethical Guidelines for Training Data:** Ensure AI systems are trained with culturally sensitive datasets, with advisory boards from communities whose art is used.
- **Regulatory Oversight:** National and global bodies should monitor repurposing of AI systems, especially in creative and sensitive industries.
- **AI Audit Trails:** Require developers to include traceability mechanisms in AI systems that document training data.
- **Legal Reform:** Introduce new legal categories for AI authorship and misuse, clarifying who bears liability in copyright or cultural rights violations.
- **Artist Support Programs:** Offer grants, residencies, and exhibitions that support and promote local artists in the age of AI.

- **Tech-Inclusive Art Education:** Teach emerging artists how to use AI responsibly so that they stay relevant and empowered.



Conclusion

While AI-generated art pushes creative boundaries, it brings complex challenges related to ownership, authenticity, and cultural respect. Balancing innovation with ethical responsibility is crucial to safeguarding the integrity of traditional art forms and ensuring fair treatment for artists.

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