

DRUM WEB APP



Recently, IIT Kharagpur associate professor and students created the Dynamic Route Planning for Urban Green Mobility (or DRUM) web app.

- It's like Google Maps but with the added feature of allowing **users pick routes based on air quality and energy efficiency**.
- It gives users **five route options**: shortest, fastest, least exposure to air pollution (LEAP), least energy consumption route (LECR), and a combination of all four factors called the **suggested route**.

It was designed to **fetch live pollution and traffic** data the moment a user entered a route instead of pulling data at intervals.

- It **determines routes using GraphHopper**, a Java-based routing library that generates multiple options, while fetching real-time traffic updates from Mapbox.
- The team relied on data from the **CPCB and the World Air Quality Index**.
- They implemented a **segment-wise interpolation strategy** to estimate pollution levels in areas without direct sensor coverage, divided routes into segments, and used nearby sensor data to estimate pollution where coverage was missing.

To test the system, the team simulated **Delhi's East, South, North and Central corridors**, accounting for different traffic, road quality, and pollution patterns.

The results showed that **shorter or faster routes often passed through polluted zones**, offsetting time or distance gains.

BRICS PARLIAMENTARY FORUM

Recently, the 11th BRICS Parliamentary Forum concluded in Brasilia, Brazil.



- It is a vital platform for dialogue among Parliaments of **BRICS member countries**.

- The expanded BRICS parliamentary forum now includes India, Brazil, Russia, China, South Africa, Iran, the UAE, Egypt, Ethiopia, and Indonesia.
- The **1st BRICS Parliamentary Forum** was held during Russia's Chairship on **8 June 2015** in Moscow.

India hosted the BRICS Parliamentary Forum in **October 2016** on the sidelines of the 135th Assembly of the Inter-Parliamentary Union in Geneva, Switzerland.

- **Chairmanship:** This forum's Chairmanship rotates among its members
- **India** was officially handed over the **chairmanship** of the **12th BRICS Parliamentary Forum**, scheduled to be held in 2026.

Key facts about BRICS

- BRICS is an acronym for **Brazil, Russia, India, China, and South Africa**, a bloc of countries that formed a partnership following the creation of **the term in 2001** by Goldman Sachs economist Jim O'Neill (but it didn't include South Africa at the time).
- South Africa joined in 2010, making it "BRICS".
- The group was designed to bring together the world's most important developing countries to challenge the political and economic power of the wealthier nations of North America and Western Europe.
- BRICS Grouping New Members: **Saudi Arabia, Iran, Ethiopia, the United Arab Emirates**, and Egypt joined BRICS in **2024**. **Indonesia** joined the bloc as a full member on **January 6, 2025**.

NATIONAL E-VIDHAN APPLICATION



- It is a **digital platform** that aims to make India's legislatures paperless and streamline legislative processes.
- The aim of the project is to ensure that the **Legislative Business of the House** is conducted in a **Paperless manner** and to bring all the legislatures of the country together, in one platform.
- It is an initiative by the **Ministry of Parliamentary Affairs (MoPA)** to digitize and streamline legislative processes across all 37 State and UT Legislatures through a unified platform, embodying the vision of '**One Nation – One Application**'.

Features

- It is a member centric, user-friendly platform designed to align legislative processes.
- The app allows **all parliamentary members to access all house business** information on their phones and tablets, enabling better handling of legislative tasks. NeVA helps the government departments to manage operations by creating an inclusive digital department.
- NeVA Project being hosted by **Meghraj National Cloud**, ensures a secure, disaster proof, reliable functioning for all legislatures.
- The app allows Ministers and Members to manage all the parliamentary work like access to house proceedings, replies to questions, etc through the App.
- It is partnering with **BHASHINI, MeITY**, NeVA also integrates **AI/ML-based real-time translation services**, boosting linguistic inclusivity.
- Till now, 28 State Legislatures have signed MoU and 18 Legislative Houses have transformed themselves into Digital Legislature completely.

RANTHAMBORE TIGER RESERVE



The Supreme Court recently ordered the Rajasthan government to impose an immediate ban on all mining activities within the core area of the Ranthambhore Tiger Reserve.

- It is located in the Sawai Madhopur district of **southeastern Rajasthan**.
- It derives its name from the **Ranthambore Fort (a World Heritage Site)** situated within its precincts.
- The reserve is **surrounded by the Vindhya and Aravalli** hill range.
- The area was once a royal hunting ground for the Maharajas of Jaipur.
- It is one of the largest tiger reserves in northern India. It spans an area of roughly 1,411 sq.km.
- It boasts a spectacular landscape filled with boulder-strewn highland plateaus, lakes, and rivers dotted with old forts and abandoned mosques.
- **Rivers:** It is bounded **to the north by the Banas River** and **to the south by the Chambal**
- There are several **lakes** in the park known as **Padam Talab, Raj Bagh Talab, and Malik Talab**.

Vegetation: It is **dry deciduous forests** and **open grassy meadow**.

Flora: Pure sands of **Dhok tree** (*Anogeissus pendula*) **interspersed with grasslands** at the plateaus, and other species like *Acacia*, *Capparis*, *Zizyphus*, and *Prosopis*, etc are found here.

Fauna: It consists of **leopard, caracal, jungle cat, sambar, chital, chinkara**, and wild boar.

CENSUS SET TO TRIGGER NPR UPDATE

The Census, scheduled in two phases during 2026 and 2027, will enable delimitation, implementation of the Women's Reservation Bill.

It will also facilitate updates to the National Population Register (NPR), potentially laying the groundwork for a nationwide National Register of Citizens (NRC) exercise.

Census 2026–27: Implications Beyond Population Count

- **Census to Enable Key Constitutional Exercises**
 - The upcoming Census, scheduled in two phases across 2026 and 2027, is expected to facilitate the delimitation of constituencies and the implementation of the Women's Reservation Bill.
- **NPR Update Likely During House Listing Phase**
 - Sources indicate that the National Population Register (NPR) will likely be updated during the house listing phase, but a decision on advancing to a nationwide National Register of Citizens (NRC) is pending.
- **NPR-NRC: Politically Sensitive Terrain**
 - The NPR-NRC issue triggered nationwide protests following the Citizenship Amendment Act (CAA) in 2019.
 - In 2020, 10 states and two Union Territories passed Assembly resolutions opposing the NPR and NRC.
- **No Official Mention in Latest Announcement**
 - While the government's latest Census announcement is silent on NPR and NRC, both were approved by the Cabinet in 2019 with an allocated budget of nearly ₹4,000 crore.
 - The exercise was deferred due to the pandemic.

Legal Framework Governing NPR and NRC

- **NPR as a Legal Precursor to NRC**

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- The National Population Register (NPR) is governed by the **Citizenship (Registration of Citizens and Issue of National Identity Cards) Rules, 2003**, framed under Section 18 of the Citizenship Act, 1955.
- NPR serves as the foundation for preparing the National Register of Citizens (NRC).
- **Rules Define Process and Authority**
 - **Rule 3(4):** The Centre can order the preparation of the Population Register.
 - **Rule 3(5):** NRC will be based on verified NPR data.
 - **Rule 4(4):** People with doubtful citizenship are to be flagged and informed during verification.
 - **Rule 7 & 17:** Heads of families must provide accurate data or face a fine of up to ₹1,000.
- **NPR and NRC History**
 - NPR data was first collected in 2010 and updated in 2015.
 - Though the Modi government later prioritised Aadhaar for welfare delivery, NPR was revived in 2019 by the Registrar General of India (RGI), who also digitised the 2015 data.
- **Political Backdrop and Public Anxiety**
 - The NPR revival coincided with nationwide protests against the Citizenship Amendment Act (CAA) and fears of a nationwide NRC, especially after the exclusion of 19 lakh people in Assam's NRC.
 - Later, PM Modi and the MHA clarified that no decision on NRC had been taken.
- **Legal Basis for NRC in the Citizenship Act**
 - The 2003 amendment to the Citizenship Act inserted Section 14A, empowering the Central Government to compulsorily register every Indian citizen and issue a national identity card.
 - It also designated the Registrar General of India as the National Registration Authority.

IMPACT OF CHINESE DAMS ON BRAHMAPUTRA IN INDIA

- India continues to monitor China's infrastructure projects along the Brahmaputra, most of which are hydropower-based with minimal water storage.
- These are located far upstream and currently pose no significant impact on Arunachal Pradesh or Assam.
- **The Medog Hydropower Project: A Potential Game-Changer**
 - The proposed 60,000-MW Medog project near the 'Great Bend' in Medog County is of major concern.
 - If built, it would be the **world's largest hydropower facility**—three times the capacity of China's Three Gorges Dam.
 - While specific details are scarce, it is believed to have limited water storage, reducing its potential downstream impact.
- **South-North Water Diversion (SNWD): Long-Term Speculations**
 - China's long-term SNWD plan, especially its Western Route, is rumored to include diversion of water from the Yarlung Tsangpo to arid northern regions.
 - However, there is no official confirmation or detailed study available on these diversion plans.

India's Utilisation of the Brahmaputra's Water Potential

- The Brahmaputra and its tributaries hold over 30% of India's total water resources and 41% of its hydropower potential, according to the CWC-ISRO Brahmaputra Basin Atlas.
- **Hydropower Development Focused in Arunachal Pradesh**
 - Arunachal Pradesh remains the primary site for hydropower development.
 - However, progress has been slow due to land acquisition issues and concerns over forest submergence.
- **Inter-Basin Water Transfer Proposals**

- India has proposed two major river-linking projects to transfer Brahmaputra basin water to water-scarce regions of the Ganga basin:
 - Manas-Sankosh-Teesta-Ganga Link
 - Jogighopa-Teesta-Farakka Link
- **No Major Threat from Upstream Chinese Projects**
 - These proposed water transfer links are unlikely to be significantly affected by China's upstream interventions in Tibet.

Impact of Chinese Dams on the Indus and Sutlej Rivers

- China has constructed and planned hydropower projects on the Sutlej and Indus, both of which originate in Tibet.
- **Limited Impact on Sutlej Due to Indian Storage Capacity**
 - The Bhakra Dam (Gobind Sagar reservoir) in Himachal Pradesh provides a buffer, absorbing flow variations in the Sutlej.
 - However, generation patterns at projects like Nathpa Jhakri may still be affected.
- **Minimal Consumptive Use on the Indus**
 - India's use of the Indus is largely non-consumptive.
 - While there may be minor impacts on run-of-the-river plants like Nimoo Bazgo in Ladakh, overall risks remain limited.

India's Strategic Approach on the Brahmaputra Issue

- **Strengthen Scientific Assessment and Monitoring**
 - India must invest in detailed, multi-disciplinary studies to evaluate the impact of upstream interventions and develop adaptive, evidence-based strategies.
- **Enhance Diplomatic Engagement**
 - Continuous diplomatic efforts are needed to secure hydrological and project-specific data from China for informed downstream impact assessments.
- **Establish Robust Data-Sharing Mechanisms**
 - India should push for formal data-sharing protocols with China to ensure early warnings, improve disaster preparedness, and reduce flood-related risks.

KEY FACTS ABOUT POWAI LAKE



- It is an **artificial lake** situated in the northern suburb of **Mumbai, Maharashtra**.
- The lake was **built by the British** in **1890**, after constructing two dams about ten metres high across two hillocks, to **augment the water supply to Bombay**.
- The **hillocks** seen on the **south end of the lake** are the **lowest slopes of the Western Ghats**.
- The catchment area of the lake is 6.6 sq.km, with the depth varying from 3 to 12 metres.
- Around Powai Lake are two famed institutions-**Indian Institute of Technology-Bombay (IIT-B)** and **National Institute of Industrial Engineering (NITIE)**.
- The lake is surrounded by the **Powai Bird Sanctuary**.
- It is an important resting, feeding, and breeding site of several **bird species, resident and migratory**.
- Among some of the lake's rare and distinguished residents and visitors are the **Watercock, Pheasant-tailed Jacana, Slaty-legged Crake, Ruddy-breasted Crake, Woolly-necked Stork, Caspian Tern, and Peregrine Falcon**.