

## Current Affairs - 12 March 2025

### WORLD AIR QUALITY REPORT 2024



Byrnihat (Assam) is the most polluted city globally, while Delhi remains the most polluted capital. India ranked fifth in air pollution in 2024, improving from third place in 2023.

#### Key Highlights of the World Air Quality Report 2024

- The World Air Quality Report 2024 has been released by Swiss air quality technology company IQAir.
- The report looked at the data from over 40,000 air quality monitoring stations across 138 countries, territories, and regions, and was analysed by IQAir's air quality scientists.

Most Polluted Cities in the World in 2024	
1. Byrnihat, India	11. Peshawar, Pakistan
2. Delhi, India	12. Sialkot, Pakistan
3. Karaganda, Kazakhstan	13. Gurugram, India
4. Mullanpur, India	14. Ganganagar, India
5. Lahore, Pakistan	15. Hotan, China
6. Faridabad, India	16. Greater Noida, India
7. N'Djamena, Chad	17. Bhiwadi, India
8. Loni, India	18. Muzaffarnagar, India
9. New Delhi, India	19. Hanumangarh, India
10. Multan, Pakistan	20. Noida, India

#### Pollution in India: Key Highlights

#### Delhi: The World's Most Polluted Capital for Six Consecutive Years

- Delhi has once again

been ranked as the world's most polluted capital, surpassing other cities in the National Capital Region (NCR) in 2023.

- While some NCR cities previously recorded worse pollution levels, Delhi emerged as the most polluted regional city in South Asia.
- In 2024, Delhi was the second most polluted city in the world and in Central and South Asia.
- Decline in Average PM2.5 Levels**
  - India's average PM2.5 concentration in 2024 was **50.6  $\mu\text{g}/\text{m}^3$** , reflecting a **7% decrease** from 2023 (54.4  $\mu\text{g}/\text{m}^3$ ).
- Most Polluted Cities**

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- **Byrnihat** recorded the highest pollution levels globally, with an **annual PM2.5 concentration of 128.2  $\mu\text{g}/\text{m}^3$** .
  - **Six Indian cities** ranked among the world's **10 most polluted**.
  - **Major Pollution Sources**
    - Crop stubble burning accounted for 60% of PM2.5 pollution during peak periods.
    - Vehicular emissions, industrial discharges, and construction dust were other significant contributors.
  - **Air Pollution: A Global Crisis**
    - **Widespread Exposure to Dirty Air**
      - In 2024, **most of the global population** was breathing polluted air.
      - Only **12 countries, regions, and territories** met the WHO's recommended PM2.5 limit of **5  $\mu\text{g}/\text{m}^3$** .
      - These regions were primarily in **Latin America, the Caribbean, and Oceania**.
    - **Most Polluted Countries**
      - The five most polluted countries, based on **annual average PM2.5 concentrations**, were:
        - Chad – 91.8  $\mu\text{g}/\text{m}^3$
        - Bangladesh – 78  $\mu\text{g}/\text{m}^3$
        - Pakistan – 73.7  $\mu\text{g}/\text{m}^3$
        - Congo – 58.2  $\mu\text{g}/\text{m}^3$
        - India – 50.6  $\mu\text{g}/\text{m}^3$
    - **Severe Air Quality Violations**
      - Only **17% of the 8,954 cities** worldwide met WHO's PM2.5 guidelines.
      - The **20 most polluted cities**, located in **India, Kazakhstan, Chad, Pakistan, and China**, exceeded WHO limits by over 10 times.
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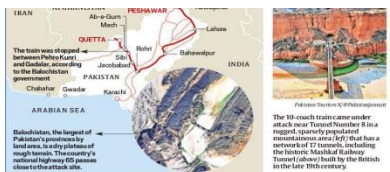
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### PAKISTANI BALUCH SEPARATIST MILITANTS BEHIND TRAIN HIJACKING

Balochistan Liberation Army (BLA) insurgents attacked and hijacked the Jaffar Express traveling from Quetta to Peshawar on March 11 in Balochistan's Bolan district.



The BLA claimed responsibility, stating that 182 people were taken hostage, 20 Pakistani military officers were killed, and a drone was shot down.

#### **Balochistan Liberation Army (BLA)**

- The BLA emerged in the early 2000s with the goal of achieving Baloch independence.
- Pakistan banned the organization in 2006, and the US designated it as a global terrorist group in 2019.
- **BLA's Activities and Structure**
  - The US State Department describes the BLA as an armed group targeting security forces and civilians in Baloch areas of Pakistan.
  - The Majeed Brigade, its suicide squad active since 2011, led the Jaffar Express hijacking. It has been involved in previous attacks, including the March 2024 Gwadar port strike.
  - Other BLA units involved in the hijacking include the Special Tactical Operations Squad (STOS), Fatah Squad, and Zirab Units.
- **Goals of the BLA**
  - The BLA seeks independence for Balochistan, which borders Afghanistan and Iran.
  - It is the largest among several ethnic insurgent groups fighting Pakistan's federal government for decades.
  - The insurgents claim Balochistan's rich gas and mineral resources are unfairly exploited and should belong to the local people.

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- **Historical Context**

- After independence, Balochistan remained independent under a treaty with Pakistan until March 1948.
- The **Khan of Kalat**, who controlled Kalat, Makran, Las Bela, and Kharan, initially sought independence but later signed the instrument of accession under political pressure.
- British concerns over Russian influence and internal demands from other Baloch regions contributed to its integration into Pakistan.

#### Strategic and Economic Importance of Balochistan

- **Key to China's CPEC:** Balochistan is crucial to China's \$65 billion China-Pakistan Economic Corridor (CPEC) under Xi Jinping's Belt and Road Initiative.
- **Rich in Resources:** It hosts major mining projects, including **Reko Diq**, one of the world's largest **gold and copper mines**, operated by Barrick Gold and China.
- **Security Concerns:** The long-running Baloch insurgency has destabilized the province, threatening Pakistan's plans to tap into its vast resources.
- **Geopolitical Significance:** Balochistan, Pakistan's largest province by area but smallest by population, has a long Arabian Sea coastline near the Strait of Hormuz, a vital oil shipping route.

#### IMMIGRATION AND FOREIGNERS BILL, 2025



With an aim to enhance national security, the government on Tuesday introduced the Immigration and Foreigners Bill, 2025 in Parliament.

- The Immigration and Foreigners Bill 2025 aims to streamline immigration laws, strengthen national security, and impose stricter penalties for violations.
- The bill proposes to replace four colonial-era laws, including the Foreigners Act, 1946, and the Passport (Entry into India) Act, 1920, to create a single, modern legal framework.

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### Key features:

- **National Security:** The bill prioritises national security and sovereignty, stating that any foreigner posing a threat to India's integrity will be denied entry or permission to stay.
- **Powers of Immigration Officers:** Immigration officers can arrest without a warrant if they suspect a foreigner of violating immigration laws. They can also restrict movements and name changes.
- **Registration and Reporting Requirements:** Foreigners must register upon arrival and report any changes in movement or identity. Institutions like hospitals and schools must notify authorities about foreigners under their care.
- **Strict Entry and Stay Regulations:** All foreigners need a valid passport and visa to enter or leave India. Carriers are responsible for ensuring passengers have proper documents or face fines and transport seizure.
- **Penalties for Violations:**
  - No valid documents – Up to 5 years jail, ₹5 lakh fine
  - Forged documents – 2 to 7 years jail, ₹1–10 lakh fine
  - Overstaying – Up to 3 years jail, ₹3 lakh fine
  - Transporting foreigners without papers – ₹5 lakh fine and vehicle seizure
- **Handling of Dual Citizenship:** Foreigners with dual citizenship will be treated as citizens of the country whose passport they used to enter India.

### PLASTIC ICE



Scientists have confirmed the existence of a fourth form of water, Plastic Ice VII, an exotic phase of ice that forms under extreme conditions.

- Under normal conditions, water exists in three phases: solid (ice), liquid (water), and gas (vapour or steam). Unlike ordinary ice, Plastic Ice VII allows water molecules to **rotate freely within a rigid crystalline structure**.



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- This phase was first **predicted in 2008**, but scientists have now provided solid evidence of its existence using advanced neutron-scattering experiments at the Institut Laue-Langevin in France.
- The unique structure of Plastic Ice VII forms at pressures exceeding three gigapascals (GPa), about **30,000 times atmospheric pressure on Earth**, and temperatures above 450 Kelvin ( $177^{\circ}\text{C}$ ).

### How Was It Discovered?

- Researchers used **quasi-elastic neutron scattering (QENS)** and diamond-anvil cells to study tiny high-pressure samples. These techniques allowed them to analyze molecular motion at the atomic scale.
- Their findings confirm that while Plastic Ice VII retains a crystalline structure, its molecules rotate in specific, preferred directions.

### Significance of Plastic Ice Discovery:

- This discovery has profound implications for **planetary science**. Ice VII, an earlier known phase, exists deep inside the icy moons of Jupiter and Saturn, such as Callisto, Ganymede, and Titan.
- Now, the confirmation of Plastic Ice VII suggests that **water in extreme environments** behaves in even more complex ways than previously thought.

### INS IMPHAL

Indian Naval Ship (INS) Imphal arrived at Port Louis, the capital of Mauritius, recently for its maiden port call ahead of the country's 57th National Day celebrations on March 12.



Commissioned in December 2023, INS Imphal is the **third of the four Project 15B Visakhapatnam-class** stealth-guided missile **destroyers**.

- The other destroyers in the Visakhapatnam class are INS Visakhapatnam, INS Mormugao, and INS Surat.

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- INS Imphal is a potent platform capable of undertaking a variety of tasks and missions, spanning the full spectrum of **maritime warfare**.
- The Navy's **Warship Design Bureau** designed the ship in-house, and **Mazagon Dock Ltd.** (MDL) was responsible for its **construction**.
- It is the first warship to be named after a city in the Northeast, Imphal -- the capital of Manipur.
- It was the **first naval warship commissioned with accommodation for women officers** and sailors.
- **Features:**
  - It is among the **largest destroyers** constructed in India, with an overall length of 164 metres and a displacement of over 7500 tonnes.
  - Speed: It can achieve a maximum speed of 56 km/hr.
  - INS Imphal is capable of undertaking **anti-submarine warfare operations**.
  - The **made-in-India** **destroyer** has a **75 percent high indigenous content**, including, medium-range surface-to-surface missile, the **BrahMos missile**, torpedo tube launchers, and a 76mm super rapid gun mount.
  - It has **modern surveillance radar**, which provides target data to the gunnery weapon systems.
  - It has a **total atmospheric control system (TACS)** that offers protection to the crew from chemical, biological, and nuclear threats.
  - The **crest design depicts** the **Kangla Palace** on the left and **'Kangla-Sa'** on the right.
    - The Kangla Palace is an important historical and archaeological site of Manipur, and was the traditional seat of the past kingdom.
    - With a dragon's head and lion's body, the 'Kangla-Sa' is a mythical being from Manipur history, and is symbolic as the guardian/protector of its people. 'Kangla-Sa' is also the state emblem of Manipur.

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#### PRATIBIMB MODULE



- It is a **Geographic Information System (GIS)-based software** launched by the Union Home Ministry's **Indian Cyber Crime Coordination Centre (I4C)**.
- **Objective:** To help enforcement agencies, including state police forces, to **map cybercriminals in real time and destroy their network**.
- Pratibimb offers a unique advantage of **projecting mobile numbers used in cybercrimes** across the entire country **into a GIS map**.
- The software also provides a **map view to personnel of the law enforcement agencies (LEAs)** and service providers to **ascertain the actual locations of mobile numbers active in criminal activities**.

#### **Samanvaya Platform:**

- It was launched by the **Ministry of Home Affairs** as a **coordination platform for LEAs for cybercrime data sharing and analytics**.
- It provides analytics **based on interstate linkages of crimes and criminals** involved in cybercrime complaints across various States/UTs.

#### **Key Facts about Indian Cyber Crime Coordination Centre (I4C):**

- I4C has been established under the **Ministry of Home Affairs (MHA)** to **deal with cybercrime in the country** in a coordinated and comprehensive manner.
- The I4C focuses on tackling issues related to cybercrime for citizens, including improving coordination between various Law Enforcement Agencies (LEAs) and stakeholders.
- The centre is located in **New Delhi**.
- I4C **brings together academia, industry, public and government** in the prevention, detection, investigation, and prosecution of cybercrimes.



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### SAJJANGARH WILDLIFE SANCTUARY



- It is located on the outskirts of Udaipur city in Rajasthan.
- It is nestled in the Aravalli hill range, covering an area of approximately 5.19 sq.km.
- The Sanctuary lies around the Sajjangarh Fort, built by the erstwhile Maharana Sajjan Singh of Mewar in 1874 on Bansdara Hill.
- Bari Lake, popularly known as Tiger Lake, is situated on the western slope of the Sanctuary. This lake was built by Maharana Raj Singh of the Mewar dynasty.

**Vegetation:** It encompasses a blend of deciduous and semi-evergreen

**Flora:**

- It boasts a lush environment dominated by trees like teak, mango, neem, jamun, khair, and ber.
- The presence of abundant bamboo groves further enhances the habitat.

**Fauna:** It is home to animals like panthers, hyenas, wild boars, jackals, sloth bears, sambar deer, spotted deer, and four-horned antelopes.