



1 November, 2023

## Road Accidents in India-2022 Report

**Context:** The Ministry of Road Transport and Highways released the Annual Report on 'Road Accidents in India-2022.'

- The report is based on **data from police departments of States and Union Territories.**
- In 2022, there were **4,61,312 road accidents** in India.
- These accidents resulted in 1,68,491 fatalities and 4,43,366 injuries.
- Compared to the previous year, **there was an 11.9% increase** in accidents, a 9.4% rise in fatalities, and a 15.3% increase in injuries.
- **Key Findings:**
  - Out of the total accidents, **32.9% occurred on National Highways**, 23.1% on State Highways, and **43.9% on Other Roads.**
  - Fatalities on National Highways accounted for 36.2%, State Highways 24.3%, and Other Roads 39.4%.
  - Among fatal accidents, 35.7% occurred on National Highways, 24.3% on State Highways, and 40% on Other Roads.
  - In 2022, **over-speeding was a major factor**, accounting for **71.2%** of fatalities, **followed by driving on the wrong side (5.4%).**
  - **Most accidents (47.7%) occurred in open areas** without human activities nearby.
  - Accidents on **straight roads were 67%**, while curved roads, pothole roads, and steep grades accounted for 13.8%.
  - In 2022, **66.5% of victims were young adults aged 18 - 45**, and the working-age group of 18 - 60 accounted for 83.4% of fatalities.
  - **Two-wheelers were involved in the highest number** of accidents and fatalities.
  - Two-wheeler riders **represented 44.5% of total fatalities**, followed by pedestrian road-users at 19.5%.
  - **Tamil Nadu had the highest** number of accidents, while **Uttar Pradesh** had the highest number of accident fatalities in 2022.
  - **Million Plus Cities accounted for 16.6%** of total accidents and 10.1% of accident fatalities in 2022.
  - Most road accidents and fatalities occurred in **rural areas (68%)** compared to **urban areas (32%).**
  - The report provides an analysis of international comparisons of road accidents.
  - The Ministry implements a multi-pronged road safety strategy based on Education, Engineering, Enforcement, and Emergency Care.
- **Road Infrastructure in India**
  - India has the world's second-largest road network at **5.89 million kilometers.**
  - It handles **64.5% of freight and 90% of passenger traffic** in the country.
  - Road transportation has grown due to economic development and improved connectivity.
  - Roads in India are classified into National Highways, State Highways, District Roads, and Village Roads.
    - **National Highways:** These major highways connect major cities and towns, totaling approximately 1,32,500 km and maintained by the National Highways Authority of India (NHAI).
    - **State Highways:** These highways link major cities and towns within a state, totaling about 1,50,000 km and maintained by state governments.
    - **District Roads:** These roads connect smaller towns and villages within a district, covering approximately 4,70,000 km and maintained by district authorities.
    - **Rural Roads:** These roads connect individual villages and hamlets to the rest of the country, with a total length of about 26,50,000 km, maintained by local Panchayats.

## INFUSE Mission

**Context:** NASA is initiating a mission to investigate the death of a star and the birth of a new galaxy, located over 2,600 light-years from Earth.

- A rocket is assigned the task of conducting the **Integral Field Ultraviolet Spectroscopic Experiment (INFUSE).**
- The purpose of this mission is to capture the wavelengths of light resulting from the interaction of a supernova's energy with cold pockets of gas in outer space.
- The **supernova** under investigation is known as the **Cygnus Loop**, located in the **Cygnus constellation**, which resembles the shape of a swan with stars forming the figure of a bird and two wings.
- Astronomers are interested in supernovae like the one responsible for the Cygnus Loop as they **significantly influence the formation of galaxies.**
- NASA's INFUSE mission, a **sounding rocket mission**, is being launched to investigate the Cygnus Loop supernova remnants.
- INFUSE employs a special instrument that **integrates imaging and spectroscopy techniques.**
- The mission's primary goal is to unravel the enigmas surrounding stellar explosions and their influence on the formation of new celestial bodies.
- The mission **involves the use of the Hubble Space Telescope** to capture detailed images of the **Veil Nebula**, a part of the Cygnus Loop, showcasing emissions from doubly ionized oxygen, ionized hydrogen, and ionized nitrogen in various colors.
- **Cygnus Loop**

## Face to Face Centres





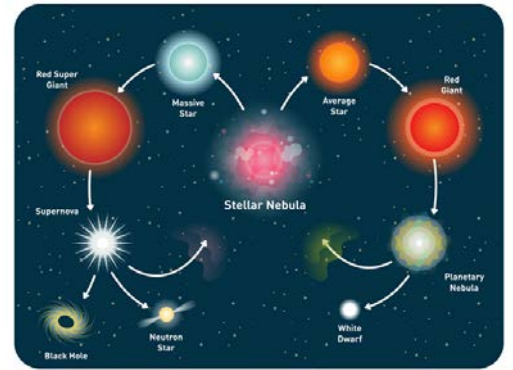
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- Cygnus, a constellation known as "swan" in Latin, is visible in the northern hemisphere's night sky for a few months each year.
- The **Cygnus Loop, also called the Veil Nebula**, is a prominent celestial feature just above the constellation's wing.
- The Cygnus Loop is the **remnants of a massive star**, once 20 times the size of our Sun, that **underwent a supernova explosion about 20,000 years ago**.
- Despite being located **2,600 light-years away**, the supernova's flash of light was estimated to be bright enough to see during the day on Earth.
- This phenomenon offers a unique opportunity to observe an ongoing supernova blast. The expanding cloud, which now spans over 120 light-years, is still growing at a remarkable speed of approximately 930,000 miles per hour (about 1.5 million kilometers per hour).
- Telescopes capture the superheated dust and gas illuminated by the shockwave, rather than the supernova blast itself, as it cools down.



## ➤ Supernova

- A supernova is a **powerful and luminous explosion of a star**, occurring during the **last stages** of a massive star's life or **when a white dwarf undergoes runaway nuclear fusion**.
- Supernovae result in the **formation of a neutron star, black hole, or a diffuse nebula**, and their peak luminosity can rival that of an entire galaxy before fading over weeks or months.
- The **Milky Way** has experienced notable supernovae, with the last observed in **1604 (Kepler's Supernova)** and **SN 1987A being the most recent naked-eye supernova**, located in the Large Magellanic Cloud.
- Theoretical studies suggest **two main triggers for supernovae: re-ignition of nuclear fusion in a white dwarf and sudden gravitational core collapse in massive stars**.
- Supernovae can expel substantial material at high velocities, creating shock waves in the interstellar medium, forming supernova remnants, and contributing to the enrichment of elements in space.
- These explosions can also induce star formation and are a significant source of cosmic rays. Gravitational waves may be produced during supernovae, but they have been observed primarily in black hole and neutron star mergers.



## U Muthuramalinga Thevar

**Context:** Annually on October 30th, hundreds from West Bengal's Thevar community gather in Kolkata for Thevar Jayanthi Guru Puja.

- **U Muthuramalinga Thevar's Remarkable Life and Legacy:**
  - U Muthuramalinga Thevar was a politician and **secretary of the Harijan Sevak Sangh in Tamil Nadu**.
  - He staunchly **opposed untouchability and led Harijans into Madurai's Meenakshi Temple in 1939**.
  - He played a pivotal role in **abolishing the oppressive Criminal Tribes Act of 1920**.
- **The Thevar Community in West Bengal:**
  - The Thevar community in West Bengal consists of **over 3,000 individuals**.
  - They are mainly located in areas like New Market, Janbazar, and Lake Gardens in Kolkata.
  - Many of them are **involved in businesses and catering**, including operating idli and dosa stalls.
- **The Birth of a Tradition in Kolkata:**
  - A **10-foot-tall golden statue of U Muthuramalinga Thevar** in central Kolkata symbolizes the community's history in the city.
  - The **community's presence in Bengal began in 1949** when some Thevar individuals found themselves stranded in the region after returning from Burma.
  - They laid the foundation for the growth of the Thevar community in Kolkata, inviting family and acquaintances from their Tamil Nadu villages.
- **Thevar Jayanthi Guru Puja Tradition:**
  - Preparations for Thevar Jayanthi Guru Puja start eleven days prior to the event.
  - The celebration involves offerings to Thevar's statue, cleansing rituals, garlands, and various offerings.
  - Fasting is observed by the community until the ceremony concludes.

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- **Solemn Journey to Pay Homage:**
  - Travelers from outside Kolkata disembark near Fort William and **undertake a barefoot journey to Central Avenue**, following the tradition of entering a temple without footwear.
- **U Muthuramalinga Thevar's Legacy:**
  - His legacy is akin to that of B. R. Ambedkar and is commemorated in a similar manner.
  - U Muthuramalinga Thevar's **influence grew post-1980**, with the deification of Thevar and the erection of statues in his honor.
  - He remains a significant figure in Tamil Nadu's political landscape.
- **Thevars and Netaji Subhash Chandra Bose:**
  - Thevar's **association with Netaji Subhash Chandra Bose's All India Forward Bloc in 1939** marked a crucial point in his political journey.
  - They shared beliefs in social justice, anti-caste activism, and opposition to imperialism, forming a deep bond.
- **Honoring a Shared Legacy:**
  - In 2009, the **Netaji Pasumpon Muthuramalinga Thevar Tamil Sangam collaborated with the All India Forward Bloc** to erect a statue of Thevar in Kolkata, reflecting their shared legacy.
- **Celebrations Across India and Tamil Nadu:**
  - Thevar Jayanthi Guru Puja celebrations occur on a grand scale in Tamil Nadu, particularly in Ramanathapuram.
  - Rigorous security arrangements are in place due to the participation of political leaders from various parties.

## Ilyushin Il-38 Sea Dragon

**Context:** After 46 years of "glorious" service, the Navy said farewell to the Ilyushin-38 Sea Dragon long-range maritime patrol aircraft on Tuesday.

- The Il-38 is a **Soviet maritime patrol and anti-submarine warfare** aircraft based on the Il-18 turboprop transport.
- It was developed to **counter American ballistic missile submarines**.
- The first prototype flew in **1961**, with production commencing in 1967 and ending in 1972.
- The airframe is derived from the Il-18, with **forward wings and pressurized forward fuselage**.
- It has a MAD in the tail and a search radar ("Wet Eye" by NATO) in a bulged radome under the fuselage.
- It features two internal weapons bays, one forward of the wing for sonobuoys and one behind the wing for weapons.
- Approximately 35 Il-38 aircraft remain in Russian Naval Aviation service, with **five provided to India in 1977/78**.
- India **upgraded its Il-38s with the Sea Dragon avionics suite**, new radar, infrared turret, and electronic intelligence system.
- The Il-38 operated in the Soviet Northern, Pacific, and Baltic fleets during the Cold War, and continues in service with the Russian Navy.
- It **made its first NATO base visit in 1995** and appeared at the 1996 Royal International Air Tattoo in the UK.
- Variants include the Il-38M, Il-38MZ, and Il-38N with improved search and tracking systems.
- **Operators:**
  - **Russia:** Russian Naval Aviation
  - **Former Operators:** Soviet Union (Soviet Naval Aviation)
  - **India:** Indian Naval Air Arm

## NEWS IN BETWEEN THE LINES

### Wildlife Justice Commission



Recently, a report by the nonprofit Wildlife Justice Commission (WJC) has uncovered new evidence of the convergence of wildlife crime with various forms of organized crime.

**About Wildlife Justice Commission:**

- The Wildlife Justice Commission (WJC) is an **international foundation** established in **2015**.
- Its headquarter is in The **Hague**, the **Netherlands**.
- The WJC's mission is to disrupt and dismantle organized transnational criminal networks involved in **wildlife, timber and fish trafficking**.
- The primary goal of WJC is to **encourage and support law enforcement actions** in arresting and **prosecuting high-level traffickers** while disrupting their criminal networks.
- It collects evidence to ensure accountability in these illegal activities.
- Since 2015, the WJC has conducted **24 wildlife crime** investigations in **24 Asian** and African countries, targeting the entire supply chain.
- In **2017**, WJC's operations led to the arrest of **25 high-level traffickers** and the identification of **88** more traffickers.

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## One Nation, One Registration Platform



Recently, the National Medical Commission (NMC) is set to launch a "one nation, one registration platform" for doctors, aiming to simplify registration and eliminate duplication.

### About One Nation, One Registration Platform:

- The "One Nation, One Registration Platform" is an initiative launched by the National Medical Commission (NMC).
- The primary goal of this initiative is to simplify and streamline the registration and licensing process for doctors in India.
- The platform aims to eliminate duplication and administrative red tape in the registration of medical professionals.
- Doctors will be assigned a unique identification number on this platform, making it easier for them to practice medicine across different states in India.
- The platform will also provide undergraduate medical students with an ID that can be updated as they acquire further qualifications.
- The data of approximately 14 lakh registered doctors will be transferred to this new system.
- The NMC had earlier issued a Gazette notification titled "Registration of Medical Practitioners and License to Practise Medicine Regulations, 2023" to officially announce and implement this initiative.

## Mera Yuva Bharat



Recently, Prime Minister Narendra Modi launched the 'Mera Yuva Bharat (MY Bharat)' platform on National Unity Day, October 31st.

### About Mera Yuva Bharat:

- 'Mera Yuva Bharat (MY Bharat)' is a platform for youth empowerment launched by Prime Minister Narendra Modi on October 31, 2023.
- It was established as an autonomous body following approval by the Union Cabinet on October 11, 2023.
- The platform aims to facilitate youth development and youth-led development through technology, with the goal of providing equitable opportunities for youth to realize their aspirations and contribute to a "Viksit Bharat" (developed India).
- 'MY Bharat' benefits youth in the age group of 15-29 years.
- It is a 'Phygital Platform,' combining physical activities and digital connectivity.
- The platform is crucial as India marks 75 years of independence and begins a transformative journey toward 'Amrit Bharat' by 2047, with the youth playing a pivotal role.

## SU-30MKI



Recently, the Indian Air Force replaced its MiG-21 fighter squadron with SU-30MKI aircraft, enhancing its fleet.

### About SU-30MKI:

- The Su-30MKI is a twinjet multirole air superiority fighter developed by Russia's Sukhoi.
- It is built under license by India's Hindustan Aeronautics Limited (HAL) for the Indian Air Force (IAF).
- The Su-30MKI is a variant of the Sukhoi Su-30.
- It is a heavy, all-weather, long-range fighter with multirole capabilities.
- The IAF plans to enhance the Su-30MKIs with new weapons, avionics, sensors and engines to maintain their relevance for the next few decades.
- India had procured 272 Su-30s from Russia.
- The IAF currently has 12 Su-30 squadrons in service, indicating the significant role of these fighters in India's air defense.
- Approximately 40-50 Su-30MKIs are under HAL's care for overhaul and repairs, highlighting the importance of maintaining the existing fleet.

## Deep Ocean Mission



Recently, India has launched its ambitious 'Deep Ocean Mission' to explore and harness the depths of the ocean.

### About Deep Ocean Mission:

- The Deep Ocean Mission (DOM) is India's ambitious initiative to explore and harness the deep ocean's resources.
- It was approved by the Union Cabinet in 2021 at a cost of nearly ₹4,077 crore over a five-year period.
- It comprises six key pillars, including the development of deep-sea mining technologies, ocean climate change advisory services, deep-sea biodiversity exploration, deep-ocean survey and exploration, harnessing ocean-based energy and freshwater and the establishment of an advanced Marine Station for Ocean Biology.
- It aligns with the 'New India 2030' document, which prioritizes the blue economy as the sixth core objective for India's growth.
- It also supports the United Nations' "Decade of Ocean Science."
- Ministry of Earth Sciences (MoES) is the lead ministry responsible for implementing Deep Ocean Mission.
- India's deep-ocean mission, 'Samudrayaan,' is set to reach depths of 6,000 meters using the 'Matsya6000' submersible.

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## Place in News

### Yemen

Recently, Yemen's Houthi rebels claimed missile and drone attacks targeting Israel, marking the first time they directly targeted Israel.

**Yemen (Capital: Sanaa):**

**Location:** Yemen is located in **West Asia** at the southern tip of the **Arabian Peninsula**.

**Political Boundaries:**

Yemen shares its northern border with **Saudi Arabia** and its northeastern border with **Oman**, while it has maritime boundaries in the **Red Sea** and the **Gulf of Aden**, where it shares borders with **Eritrea**, **Djibouti** and **Somalia**.

**Geographical Features:**

- **The Rub' al Khali**, also known as the **Empty Quarter**, is a vast desert in eastern Yemen, characterized by arid conditions and sand dunes.
- **Socotra**, an island in the Arabian Sea, is known for its unique biodiversity and distinct flora and fauna.
- The **Tihamah region** experiences high evaporation rates, preventing many highland streams from reaching the sea.

Yemen's **oil reserves** are primarily concentrated in the inland **Masila Basin** in the country's central region, as well as the **Marib** and **Shabwa** basins in the west.



## POINTS TO PONDER

- ❖ As per a recent study, which Indian state has the highest cancer incidence rate in the country? - **Mizoram**
- ❖ The Hostile Activity Watch Kernel (HAWK) system, is associated with which state? - **Karnataka**
- ❖ iPhone maker Wistron approved the sale of its India unit to which Indian company? - **Tata Electronics**
- ❖ Which company launched India's inaugural satellite-based gigabit broadband service? - **Reliance Jio Infocomm**
- ❖ Where did the celebrations of Rashtriya Ekta Divas take place? - **Kevadia, Gujarat**

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